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Chapter 1

Introduction

1.1 The uniqueness of the Population ageing of Kazakhstan

Population ageing has now become the defining demographic trend in most developed countries. Demographic revolution, notable decline of fertility in the world took place in different ways, depending on the national and cultural and socio-economic characteristics of these societies. A need to find new ways and opportunities to save the population united these countries. Prevalence of death rates over birth rates, negative balance of population growth – a situation called conventionally "demographic cross" – was characteristic in due time for the majority of countries in "safe" Europe, and today represents a basic demographic problem almost in all former Soviet republics.

The European Community experienced a particularly serious demographic shock due to a sharp drop in birth rates in Eastern Europe, largely resulting from political processes. But an economically prosperous and stable society should be allowed to mitigate this negative trend by attracting migrants from other countries. Moreover, mortality crisis in European countries is exacerbated by increasing life expectancy. This "saving pattern" is not observed in post-Soviet countries, just the contrary. Nonetheless, the demographic situation in post-Soviet republics in Central Asia is more stable and the population pyramid of these countries is sufficiently broad–based (the proportion of child population). Population in these countries is relatively young and so mortality level is not so high. All this promotes positive natural population growth. The reason lies in the peculiarities of the population ethnic composition in these countries.

The impact of the population ethnic structure on the ageing process due to various reproduction patterns of different ethnic groups many of which still retain the traditional type of

birth control. To avoid demographic transition is practically impossible in the increasing globalization of the world – the question is only in the speed and timing. In Kazakhstan, representatives of titular ethnic groups, especially those who live in rural areas, continue to give birth of three or more children. This social layer can still maintain a relatively stable demographic situation. Permanent out–migration, including Kazakh ethnic groups in cities, accelerates the speed of demographic transition which today already takes place in Moldova, Ukraine, Russia, and Belarus.

The ageing population actualizes the need for socio–cultural and economic reforms. Increasing population pressure on the working population calls for delivering of pension reforms and development of various social programs. Analysis of regional differences in population ageing indicators is required when formulating measures to address the population problem.

Traditionally, the Eastern peoples are inherent to respect the elder. Traditional mentality features oblige adult children to materially and morally support their parents. Often the elderly parents live in Kazakh families together with their children and grandsons, being supported by them. The same situation is observed in other Asian ethnic groups. Western values, characterized by greater individualism, separate living and economic independence of children and parents, which make society responsible for the care of the elderly.

1.2 Outline of the study

Population ageing – an increase in the proportion of "older people", i.e. persons aged 60 and over in the population – has become a prominent topic for studies on the demographic changes implications. Ageing has emerged as a global phenomenon in the wake of the recurrent universal decline of fertility and, to a lesser extent, rising life expectancy. Population ageing is a serious concern in developed countries, where ageing is already well spread and continues to do so, representing significant challenges to the economy of pension schemes and social policy. It is also gaining importance in Kazakhstan, where the Government has started worrying about the medium– or long–term implications of the ongoing or incipient fertility decline for our age structure.

The present study is aimed to analyze the causes and consequences of population ageing and identify the interdependence between this process and the development of social policy in Kazakhstan. Main research questions are dedicated to revealing demographic situation tendencies and distinguishing features in population ageing in Kazakhstan. Further the study analyzes the country's basic social and economic performance indicators and the increased proportion of the elderly and its implications for the economy, healthcare, pension schemes, and

social protection. The issue of population ageing is being analyzed through the prism of the demographic transition theory to capture the problem as a whole.

The first chapter introduces the form of this study, its structure and issues under consideration and the last chapter summarizes the most important findings of this study. Chapter 2 describes data and data sources of the past and present demographic and social development trends used to characterize Kazakhstan's population age structure. Chapter 3 deals with the methodology and terminology applied in the study for calculating and estimating demographic changes in the population. Chapter 4 summarizes findings of the most important literature which formed a basis of the study's structure and identified major arguments and discourse, basic research directions in the field of population ageing. Population development in Kazakhstan is characterized in Chapter 5, which is one of the most important chapters as it presents preconditions and results of the past and recent demographic development trends in interaction with population ageing phenomenon. This chapter also analyzes population forecasts for Kazakhstan where population ageing effect has accelerated dramatically. Chapter 6 describes implications of increasing old population for economical situation in the world and also labor force and employment of pensioners in Kazakhstan. Pension reforms and their coverage are presented in Chapter 7. Consequences of population ageing on health care system and social protection are discussed in Chapter 8. This chapter also discloses information on social programs for elderly population.

Tables, charts and pictures within the text illustrate the most important data and analysis results.

Chapter 2

Methodology and Terminology

Main feature of population ageing is the relative increase in old population so it has deep connections with the age structure of the population. There are number of main indicators and approaches to estimate the age structure, population ageing levels, and measuring the dynamics of the age transition.

The population can be analyzed according to age and sex or combination of both factors of the population composition. The age data can be calculated by a single age group or abridged, i.e. by 5–year groups. Purpose of the analysis and the relevant data quantity can define the choice of age boundaries. Mainly, there are three most common characteristics of the age composition: child group, working–age group, and elderly age group. They are quantified absolutely or relatively. When defining or estimating population ageing, proportions of these main age groups (in %) represent the key characteristics. They are very traditional and common age groups to analyze the population age structure. Child group covers children under 15 years. Working age group includes people between 15–64 years. In fact, people over 65 represent a group of pensioners. The elderly group can be divided into two age subgroups: from 65 to 79 years – "younger old", and over 80 – "old old". These main age groups were defined a long time ago to use in the age structure analysis. Thus, their application in demography is quite traditional. When using economical approach, these definitions of the three main age groups do not fit the real situation. For example, the group of dependants in regards to the child group is significantly bigger and the reason for this is that the majority of teenagers are still in school before they reach 18 and thus economically inactive. In addition, the bulk of students in universities enter the labor market even more later. The working age group displays significant differences based on the labor activity. There are also unemployed people, women with small

children, handicapped persons and others at the age between 15–65 who are actually economically inactive and therefore represent dependent population. To analyze the potential of new workers entering the labor market, it is more efficient to measure total number of people in the age group between 15–24 or their relative weight. As for the elderly age group, some differences may take place. An important factor is that the retirement age tends to vary and sex variations prevail.

One of the frequently used indicators for characterizing the extent of population ageing is *the average age (mean age)*. It generally describes shifts in the population age structure, but does not explain an exact location or timing of major changes. Information about the average age is followed by median age characteristics. The population median age is the age that divides population into two groups of the same size, so that a half of the total population is below this threshold and the other half is above it. The median age is not influenced by extreme values to the same extend as the average age is. Various *indexes* can be developed by using specific population proportions. These indexes are based on the traditional demographic approach that encounters the three main age groups: child group (0–14), working age group (15–64) and elderly age group (65+). *The Ageing index* is calculated as the number of persons 65 years old and over per hundred persons under age 15. *Total dependency ratio* is the number of persons under age 15 plus persons aged 65 or older per one hundred persons between the ages of 15 to 64. It is the sum of the youth dependency ratio and the old–age dependency ratio. *The youth dependency ratio* is the number of persons 0 to 14 years per one hundred persons 15 to 64 years. *The old-age dependency ratio* is the number of persons 65 years and over per one hundred persons 15 to 64 years.

The potential support ratio is the number of persons aged 15 to 64 per every person aged 65 and older. *The sex ratio* is calculated as the number of males per one hundred females of the population. The sex ratio may be calculated for the total population or specific age group. This indicator is useful when comparing proportions of males and females in higher age groups as it indirectly demonstrates the sex variation rate in regards to life expectancy.

Life expectancy at a specific age is the average number of additional years a person of that age could expect to live if current mortality levels observed for ages above that age were to continue for the rest of that person's life. In particular, life expectancy at birth is the average number of years a newborn would live if current age-specific mortality rates were to continue.

Total fertility rate is the average number of children a woman would bear over the course of her lifetime if current age–specific fertility rates remained constant throughout her childbearing years (normally between 15 and 49 years). The current Total fertility rate is usually taken as an indication of the number of children women have at present.

Population ageing is distinguished in two main types. As consequences of fertility decrease and of the decline in total number of birth the population ages at *"the bottom of the pyramid"*. The decline in birth rates impacts the young cohorts population and then the relative size of the old population may rise without "directly increasing the actual number". Conversely, as the total number of the aged increases, "Ageing at the top of the pyramid" affects the age structure.

Chapter 3

Literature review

Population ageing is a global and natural process. Global in the sense that it takes place in all countries though the intensity of its development is various. It is natural as it is caused by changes in fertility, mortality and migration dynamics and represents one of the natural components of the demographic transition process, which is followed by all countries and the globe.

Process of population ageing develops "from below", being a consequence of the decline in fertility. It is shown as a decrease of child and teenager population proportion and growth in the elderly population. Recently, in many countries it develops "from above" and is a consequence of simultaneous decrease in death rates and growth in average life expectancy of the population. In this case it is shown as an increase in absolute number of the elderly.

3.1 Basic research directions in the field of Population ageing

The process of ageing regarding to individuals, families and the population as a whole, has determinants and influences practically all aspects of the society's life. Significant number of research papers is devoted to investigation of population ageing development, influence of separate demographic processes on changes in the population structure.[1] The modern demography adheres to the point of view that explanations of the parity dynamics between various age groups can be found only in chronology and forms of demographic transition.[2]

[1] Pirozhkov, S. I. Demograficheskie processy i vozrastnaya struktura naseleniya. Moskva: Statistika, 1976.
[2] Bahmetova, G. Sh., Ivankova, L. V. Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004.

In different works a complete representation of the age structure role in population reproduction is developed and laws of age structure change and its contribution to population reproduction in demographic transition are investigated. These laws demonstrate that along with fertility, mortality and migration levels the age structure is an essential factor of demographic development and plays an inertial and stabilizing role in population reproduction. It means that even favorable changes in demographic situation to be achieved through efficient actual measures of demographic and social policy, cannot radically change dynamics of number and age structure because of "growing old" initial age structures. But, on the other hand, the structural factor largely contributes to natural increase rate and interferes with fast population ageing generated by decline of fertility in the modern population.[3]

Lawful changes of population age and sex structure and its contribution to the population reproduction in the context of demographic transition are determined. Thus, in the process of revolution from high level of fertility and mortality to low levels impact of the structural factor increases, which is revealed itself in increasing the contribution of structural components to the population natural increase.[4]

Population ageing is accompanied by decrease in the potential demographic growth i.e. reduced contribution of the initial age structure to the future population growth. Numerous research papers are devoted to the ageing process development in various countries and world regions.[5] The dynamics of the ageing process in economically developed countries and regions are separate research direction in the field of population ageing.

In Europe, control of fertility started much earlier than in other regions of the world. Earlier than other regions of the world, Europe began reducing of mortality and increasing life expectancy. Therefore, the ageing population which came up from the "bottom", i.e. by reducing the proportion of young people, also appeared much earlier. Gradually, the ageing process has been manifested not only as a relative increase in the proportion of the elderly in the population, but also as an absolute increase in the number of the elderly (ageing from the "top"). [6]

Prior the XIX century, periods of growth and reduction in fertility and mortality have not been long. Therefore, their fluctuations can not significantly affect the age structure of populations. Only in 1870, a noticeable increase in the proportion of elderly took place in Europe.[7]

Negligible increase in the proportion of the elderly in the total population of Europe in the late X1X–beginning of XX century gave way to accelerated growth of this indicator already

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[3] Pirozhkov, S. I., Safarova, G. L. Starenie naseleniya: demograficheskie aspekty.*Uspehi gerontologii* Vyp. 2. 1998. s. 24-32.
[4] Pirozhkov, S. I., Safarova, G. L. Zakonomernoe i "sluchainoe" v dinamike vozrastnoi struktury naseleniya. *Demograficheskie issledovaniya.* Vyp. 16. 1993. s. 72-92.
[5] Vishnevskii A. G. Pohvala stareniyu. *Otechestvennye zapiski*. 2005. № 3. s. 78-96.
[6] Golini, A. Population aging in developed countries: Lesson learnt and to be learnt. *Population aging*/Cliquet R., Nizamuddin M. (Eds). New York: United Nations, 1999. p. 49-84.
[7] Caselli, G., Vallin J. Demographic Trends: Beyond the Limits? *Population: An English Selection*. 2001. Vol. 13. №1. p. 40-74.

in the middle of XX century (8.3 % in 1950, 11.9 % in 1970, and 16 % in 2005). According to the UN forecasts, a further increase in this figure can be expected by 21 % in 2020 and by 28 % in 2050, the public has just begun to express concern about this.[8]

It should be noted that the population ageing in selected Western European countries has its own characteristics: the population ageing began in different years and proceeded at various speeds. It has emerged as consequences of demographic transition. Finally, all countries "have grown old", but this process developed differently for each of them.

Differences in the population ageing process in Europe become more apparent, if we compare the proportion of the elderly in 1950 and 2000 in 37 countries of the region. For example, in 1950 the proportion of the elderly ranged from 4 % in Bosnia to 11 % in France. In Northern and Western Europe the figure was around 10 %, while in most countries of Southern Europe it constituted approximately 7 %. By 2000 the situation changed. The proportion of the elderly in almost all European countries has increased and ranged from 10 to 18 %. The exceptions were only Albania and Ireland, where the rate remained at 6 and 11 %, respectively.[9]

Fastest ageing took place in Italy, Spain and Greece – they became leaders and outrun France, Belgium, and Britain. North America remained relatively "young" region until 1925 as was influenced by immigration and higher birth rates among migrants; the proportion of the elderly there did not exceed 5 %, while the proportion of children and adolescents (under 20 years) – comprised more than 30 % of their population. Here ageing "top", began in 1930, slowed down for 40 years before its further acceleration in 1970. Currently, ageing indicators of these countries are on the level of Europe 30 years ago, and they are expected to maintain this insignificant "advantage" until 2050.[10]

As for Japan, the country, of course, is a demographic phenomenon, since the ageing process is increasingly escalating: just 5 % of the elderly was reported in 1950, and 7 % in 1970, 9 % in 1980 and then an unexpected figure 17 % in 2000. It is forecasted that the elderly proportion will constitute 26 % in 2020 and 33 % in 2050, respectively. Consequently, the elderly proportion in Japan will triple in 50 years from 1980 to 2030, whereas the same process in Europe takes around 80–90. In this sense, Japan has beaten all records: firstly, Japan has the shortest ageing process, and secondly, it has the highest record of ageing population level.[11]

Summing up, currently there are significant differences in the population age structure around the globe that had never been so visible. Differences in the population mean age also became obvious: it ranges from 21.5 years in East Africa up to 40 years and above in Southern

[8] World Population Prospects. The 2006 Revision. United Nations. New York (http://www.unpopulation.org (17.05.2009))
[9] World Population Aging 1950-2050. New York: United Nations, 2002.
[10] Stolnitz, G. Demographic Causes and Economic Consequences of Population aging. Europe and North America. New York: United Nations, 1992.
[11] Safarova, G. L. Demograficheskie aspekty stareniya naseleniya Sankt-Peterburga. *Peterburgskie fragmenty nauchnoi kartiny mira*. Vyp. 2 (Sankt-Peterburgskii nauchnyi centr RAN). Sankt-Peterburg. 2003. s. 244-253.

and Western Europe. In Palestine and Uganda the average population age is 19.5–19.8 years, whereas in Italy and Japan it constitutes already 41.5–42.0 years. [12]

The role of international migration is crucial in shaping the demographic picture of the world. Given that the natural increase in population is around zero or close to zero in many countries, population growth can not be achieved through other means like using a positive migration balance, i.e. migration inflows. Immigration may influence the process of the population rejuvenation in demographically oldest countries. On the one hand, the age structure of migrants usually notably younger than the age structure of the country as a whole. Hence, in this case immigration may rejuvenate the country of destination and facilitate smooth relations between economically active and economically inactive (65 years and older) population groups. On the other hand, immigration flows from other countries, particularly from third world countries, are considerably higher than the population in host countries. Hence, an increase in fertility and natural increase in immigration flows can be forecasted in near future. However, migrant reproduction and permanent population indicators might converge eventually.

According to many researchers, immigration can not be a solution of the population ageing problem in the long term. According to M. Lorio, it is impossible to expect that Europe will be able to adopt and "digest" in a short historical period of time (50 years) population, the largest, and about three times greater than its own. In fact, immigrants and their future children would be in this case, three–quarters of the European population. Such a scenario from a political point of view is absolutely unreal.[13]

As already noted, the population ageing concerns, virtually, all aspects of society's life, is addressing issues of health and social security, labor market, education, politics, ethics, international relations, etc. Significant numbers of studies have been dedicated to all these issues.

Demographic factors have always played an important role in the economy, as reflected in the economic science. Rapid declines in fertility rates resulted in such scientific disciplines as "Families Economy", "Economy of the reproductive behavior", "Pension Economy", and other.[14]

The population ageing has an impact on the size and structure of the labor force. Trends and changes in the age structure affect not only increase in the proportion of retirees, but also the economically active segment of the population – it tends to grow old. Another significant issue – employment of the elderly – the work of "young elderly" (the "young elderly" are, generally, to persons 70–75 years old), and may be willing to work.[15]

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[12] Eggeriks, T., Tabyutan D. Starenie naseleniya v mire: istoriya, mehanizm, tendencii. V kn.: Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004. s. 9-33.

[13] Lorio, M. Vzaimootnosheniya pokolenii v stareyushem obshestve .V kn.: Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004. s. 34-47.

[14] Bos, D., Cnossen, S. Fiscal Implications of an Aging population. Berlin: Springer Verlag, 1992.

[15] Lee, R. The Formal Demography of Population Aging, Transfers, and the economic Life Cycle. The Demography of Aging. Washington D.C.: National Academy Press, 1994.

Traders noted that the majority of consumers in the market are between 40 and 55 years. This leads to a conclusion that a change in the status of the elderly might help to meet their needs. With the exception of basic needs such as health, safety, housing, cultural and entertainment, this applies to a broader range of needs (travel, sports, recreation, etc.) Some analysts are not inclined to consider these expenses for older people as quite productive for the development of the economic system. According to the author, they are wrong: Most of services are based on achievements in the field of information science, remote, biochemistry, genetics, that is just how different the modern era of "post–industrial society" or society "third type", in which to live and pay the costs of their needs representatives "third age". So it should be recognized that older people are an integral part of the society, and their needs are an important component of the global development. Therefore, every attempt to shrink the financial capacity of the elderly to meet their needs or postpone the time when older people can fully exercise their freedom with a further potential to create a modern "Society of the elderly", put opportunities to overcome the economic crisis under a considerable risk. The irony behind this is that the elderly, long considered as an additional burden on the society, have become consumers and promoted "generation of services" for them.[16]

The population ageing also affects the social security system.[17] Growth of the elderly population puts the task of caring for the elderly, especially for the elderly over 80 years whose proportion is growing faster than the proportion of the elderly in general. Considerable research is devoted to the problem of caring for such people, identifying the most effective forms of aid, the ratio of family and state aid for the elderly.[18]

[16] Holtz-Eakin, D., Smeeding, N. Income, wealth, and intergenerational economic relations of the aged. Demography of Aging. Washington D.C.: National Academy Press, 1994. p. 102-145.
[17] Baldacci, E., Lugaresi, S. Social expenditure and demographic evolution: a dynamic approach. *Genus*. 1997. № 1-2. p. 61-78.
[18] Bondarenko, I. N., Lazareva, V. S. Principy OON i perspektivy organizacii social'noi zashity pozhilyh grazhdan Rossii. *Uspehi gerontologii* 1999. Tom. 3. s.13-21.

Chapter 4

Process of demographic Ageing

4.1 Global Demographic Transition

Reproduction, which is defined as the continuous updating of generations of people, is realized by the interaction of fertility and mortality. Depending on the ratio of births and deaths, a certain mode of population reproduction is formed, building the age–sex structure and promoting population growth.

The size and composition of the population serve both as a prerequisite and socio–economic development of a country or a region. The working part of the population makes possible an increase in public wealth, development of industries and services. Their level of education and training and ability to adapt to changing conditions in the labor market are of great importance. Growing population also represents an ecological factor for the region. Demographic pressure on natural ecosystems is constantly increasing, and environmental protection is becoming a mandatory element of economic activity.

Consumer market largely depends on the demographic composition of the population. Due to the high concentration of younger age groups in the population, there is an increasing demand for pediatric health care services, preschool and school educational institutions, and sports organizations. The market also reacts accordingly and delivers goods and services in line with the ageing process. There have been changes in the range of products that in some way reflected development trends in food processing and light industries, service industries, including recreation, i.e., those sectors of the economy which are focused on the peoples' needs. Density of area is taken into account when organizing services and supply networks and communication systems.

The demographic structure determines, to a larger extent, a further mode of reproduction of the population. The high share of young people under 15 years, reaching in some developing countries 40–45 %, in case of maintaining the traditions of many children, it predetermines future significant natural increase of population. Another demographic situation in the Population ageing is observed in developed countries: the proportion of the age group older than 60 years reaches 20 % or more of the residents. Consequently, implications of demographic factors for each of these two groups of countries will be different. In each case it is necessary to take into account the peculiarity of the historical background, cultural traditions and specifics of conjugal relations. The significance of the demographic component of social development is uneven not only between countries but even between regions of the country. Changing the annual rate of population growth is directly related to the qualitative change in the pattern of population reproduction.

Demographic development periods are determined by the theory of demographic revolution, whereby the change of population reproduction types occurs under the influence of the socio–economic transformation. Each stage of development corresponds to the type of renewal of people's generations and different intensity of fertility and mortality.

Agricultural production served as an economic basis for the society for a long time. The prevailing type of reproduction at the first stage of demographic transition is characterized by high levels of fertility and mortality, early marriage and low life expectancy. Poor living conditions, constant struggle for survival and, consequently, extremely high mortality, especially in the early ages, have formed a tradition for many children.

The second stage of demographic transition took place in the process of industrial development in Western Europe, where the city began to emerge as an industrial basis for increased migration and population mobility. Reduction in mortality resulted from the improved health status and medical care Traditions of many children have emerged as a necessary condition for the survival of ethnic populations, have laid foundation for religious norms and features of the national way of life. Therefore, at the second stage of demographic transition the birth rate remained high, and the mortality rate has declined. These changes resulted from increased natural growth and population growth. This type of reproduction was spread to other parts of the world. At the end of the second stage of demographic transition there was a significant reduction of fertility. Death rates also declined, but not as fast as birth rates. The level of natural increase was decline which reflected the pace of population growth. At the same time, the ageing process began. Age of marriage and divorce rates increased. This stage was formed in industrial society of Western Europe and gradually spread to the economically developed countries in other continents. This type of reproduction was still present in Britain and France in the 20's of XX century, but it has received an extensive development in the middle of the century. The lowest level of reproduction was observed in post–industrial countries.

4.2 Territorial diffusion of population reproduction and age structure changing in the world

The current demographic picture of the world represents a great variety of population reproduction and transition types. The level of population reproduction changes extensively: from depopulation to 3–4 % of annual growth. In the late 90's annual growth accounted for 96 % for developing countries, where about 80 % of the total population.

Countries are at different stages of demographic transition. The highest rates of fertility and mortality persist in Africa. Highest fertility levels (30 ‰) are fixed in Niger (52 ‰) Angola, Malawi, Uganda (50 ‰), Mali and Somalia (49 ‰). These countries adjoin a group of countries where the birth rate is about 50: Benin, Burkina Faso, Comoros, Democratic Republic of Congo (Zaire), Sierra Leone, and Western Sahara. Other African countries have lower rates, but also comparatively quite high – more than 40 ‰. Only in a few countries, fertility is within the 20–27 ‰: Seychelles, Reunion (20 ‰), Morocco, Tunisia (26 ‰), Cape Verde, and South Africa (27 ‰). The highest mortality rate is in Sierra Leone (30 ‰). In this country the lowest life expectancy for men and women constitute 33 and 36 years, respectively.

The following features of the demographic structure of the population should be mentioned: the share of age group up to 15 years in most African countries is 40 % or more, while in Libya and Mali it is even 50 %. Such a high proportion of young people in the population require substantial expenditures on health, education, and creating jobs. However, it is unlikely that significant investments into the social sphere are possible in terms of abject poverty and a large debt of the world's financial institutions. For example, per capita expenditure in Zaire, Mali and Sierra Leone accounted for USD 274, 501 and 716 of GDP, respectively. At the same time, the high proportion of younger age groups showed a significant demographic potential for the absolute majority of African countries. When you save a tradition of many children, archaic social relations can be expected in future conservation of the continent to higher population growth compared with the average global data.

In many developing countries in Africa, Central America and Southeast Asia with low development levels in rural areas, the demographic picture is determined by traditions and norms of the agrarian society. Preserving tribal relationships with the community land ownership and use of primitive technology create economic interest in a large number of employees. Every single family, along with others has an equal access to the property of tribe. The more children in the family, who help to maintain farms, the richer is the family and enjoys greater respect and prestige in public opinion of rural dwellers. In addition, high infant mortality rates make parents hesitate that they will be supported by the children, when they will be disabled. For example, in Sierra Leone infant mortality rates (under 1 year) per 1000 births encountered 195, in Western Sahara – 150, in Guinea – 136, in Malawi – 134, and in Niger – 124. This fact also encourages high fertility in traditional societies, particularly appearance of boys.

Births of girls do not considered in the total number of children. Redistribution of wealth from children to parents occurs from parents to children in such communities. In South Asia up to 80 % of elderly parents live with their children (poligenerational dominance in families), and in the United States about 15 %.

In the group with a significant natural increase constitute some countries on other continents. In Central and South America the annual population growth rate remains high. However, the ratio of births and deaths differs from that in Africa. The birth rate does not exceed 40 ‰, and the death rate does not rise more than 11 ‰. The only exception is Haiti, where it reaches 15 ‰, but even this maximum rate for America is much lower than in many African countries. The high birth rate (in ‰) is fixed in countries such as Belize and Honduras (38 ‰), Guatemala and Nicaragua (37 ‰), Bolivia (36 ‰), Paraguay (34 ‰), Haiti (33 ‰), and El Salvador (32 ‰). As a result, the population growth constitutes up to 3 % per year in these countries. This type of reproduction of population is accompanied by many problems that are typical for the developing world. One of these problems is food.

It should be noted that some countries are incapable to solve the food problem even in case of implementation of modern technologies in the agrarian sector in the future population growth in poor countries tends to outpace the rate of food production. One of five developing countries is chronically hungry. Within Asia, the serious food threat remains in Bangladesh, India and Pakistan. In South Asian region, this problem is particularly acute as the region accounts for 45–50 % of all the hungry in the world.

Among Asian countries and some other areas, significant birth rate is kept in Gaza (52 ‰), Afghanistan (50 ‰), Yemen (46 ‰), Cambodia (45 ‰), Laos and the Republic of Maldives (43 ‰), and Bhutan (40 ‰). However, the demographic factor in certain countries is manifested in different ways. It is of particularly high importance in poor countries with high fertility and population growth, such as Afghanistan, Cambodia, and Laos. These countries can be attributed to the regions with the agrarian type of population reproduction.

In Bangladesh, India and Pakistan fertility and population growth levels are lower. They form a group with the transitional type of population reproduction. Population reproduction changes in Indonesia, Thailand and South Korea are most clearly observed where recent economic reforms have influenced the change of population reproduction.

A unique demographic situation emerged in West Asia, annual rate of population growth in some countries of which (Saudi Arabia, Iraq, Jordan, and Oman) estimated around 3 %. Relatively high growth rates (about 2 %) remain in the Gulf countries and Israel (1.5 %), Lebanon (2.2 %), and Syria (2.7 %). However, this region does not experience problems that are typical for the developing world (food, population). Many of them have high per capita GDP (Saudi Arabia, Bahrain, UAE, Israel, Kuwait, Oman, Qatar), and active immigration policy. Oil–producing countries have made large investments in engineering, social infrastructure, and the manufacturing industry. These countries experience labor deficiency for construction

projects implementation and thus construction companies tend to hire labor in most countries of the Arab East, as well as in India and Pakistan.

On the European continent, birth rate is typically set within 10–12 ‰ and only in three countries, this figure is somewhat higher: in Albania (23 ‰), Iceland and Macedonia (16 ‰). Over the past decades the region ended with a second stage of demographic transition, and the apparent trend towards convergence of levels of fertility and mortality is obvious. Similar processes are observed in the United States, Canada and Japan. Highly developed countries are characterized by increasing employment in knowledge sectors of the economy and services sector, low educational and training of the workforce, the predominance of the urban form of settlement and the impressive amount of social mobility and migration.[19]

These countries have invested considerably in human resources development, i.e. development of education and science, health and welfare. Infant mortality is low (5–6 ‰), and life expectancy is significantly higher than in other countries around the world. At the same time, these countries actively involved into the process of population ageing: the proportion of older age groups in the population increases. This serves as one of the reasons for attracting foreign workers into the construction, industry, heavy industry, and utilities sectors – those areas that do not require high skills and indigenous population does not enjoy the prestige of this job.

The situation is special in Eastern Europe. Death rates here exceed birth rates. These countries are in a demographic crisis. The recent difficult economic and social situation, especially in the Baltic States, Belarus, Russia and Ukraine, including consequences of Second World War determined the dramatic decline in fertility in the region. Mortality has increased because of increased unemployment, declined living standards, insecurity and Population ageing. This is necessary to mention a constant outflow of people in Western Europe, the United States, Israel and other countries.

Over the past decade, the annual growth rate of the world's population fell by 1.2 %, i.e. a decrease in the birth rate has proved even higher than the UN experts note. The rapidly increasing populations will be in African, Western, Central and South Asia, and Central America. In these countries the demographic pressure on ecosystems is particularly high. Complicated environmental situation is in China, although the annual population growth rate declined. At the same time, the European population has recently stabilized. It is anticipated that the level of simple reproduction in the world will be achieved when the global population encounters 10 billion people.

[19] Naselenie mira (www.novsu.ru/file/20873 (27.07.09)).

4.3 Population ageing worldwide and in Kazakhstan

Population ageing is a phenomenon that occurs now in many countries. According to the experts' forecasts, by 2050 the number of older persons will exceed the total number of youth in a number of developed and developing countries, this has already happened in 1998 year. Population ageing, resulting in a growing proportion of the elderly due to the decline in total fertility rate and increasing life expectancy: it is observed today practically everywhere. It began in France at the end of XVIII century and gradually spread to all developed countries. But the proportion of the elderly never before had been increasing at the present speed.

Experts, who study the population ageing and related issues, have different approaches to the age definition. N. N. Sachuk cites, WHO Regional Office for Europe (1963), under which people aged 60 to 74 years are defined as older people, 75 years and older – old people, 90 years and older –long-livers. The World Health Organization chose the age of 65 years as an indicator of old age in 1982 which is generally accepted now in most countries.[20]

The population ageing has an impact on various spheres – economic growth, savings, consumption, taxes and transfers between generations. In the social sphere, it affects health of people, families, lifestyle, living conditions and migration. The population ageing is not only a demographic phenomenon, it may be a determinant of the processes in the political sphere, and this is particularly about the ageing of the electorate and the issue of interests representation of various age groups in political life.

Population ageing is accompanied by increased dependence of older people from socially and economically active population. Poor health, precarious financial situation, loss of competitiveness in the labor market in pre–pension and pension age are characteristics of the situation that the bulk of the elderly in different countries. Many of them feel inadaptability and social exclusion in the modern socio–economic conditions. There has been a decline in family responsibility for providing care to the elderly and meeting their needs.

The dynamics of ageing is different in various countries, depending on the economic and social development of countries and their policies. Analysis of demographic variables of many European countries showed steady trend of Population ageing in Europe. In Germany, the elderly aged 65 and older in 1997 accounted for 15 %; by 2020 this figure will increase by 22 %, in the UK – by 16 and 21 %, France – by 15 and 19 %, respectively. Similar figures can be expected in a number of other Western and Eastern European countries. For example, in Sweden the percentage of persons over 65 years was 18 in 1997 (one of the highest in Europe), by 2020 it will rise by 21 %[21] (Tab. 1).

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[20] Karyuhin E.V. Gerontologicheskie nko: ot modelei uhoda k stanovleniyu sektora. Moskva. 2002. (www.dobroedelo.ru/vrc/book_publish/doc/glava1_1.doc (13.08.2009)).

[21] Oskolkova, O. Starenie naseleniya v stranah ES. //Mirovaya ekonomika i mezhdunarodnye otnosheniya, 1999, № 10. p.74-83.

Tab. 1: Share of population aged 65+ in EU countries (in percentage)

Country	1975	1997	2020 (estimates)
Austria	15	15	19
Belgium	14	16	18
Great Britain	14	16	21
Germany	14	15	22
Greece	13	16	18
Denmark	13	15	20
Spain	11	16	17
Italy	12	16	19
Luxembourg	14	14	20
Netherlands	11	13	19
Portugal	10	15	16
Finland	11	14	22
France	13	15	19
Sweden	15	18	21
For comparison:			
USA	10	12	16
Japan	8	15	21

Source: Human Development Report Kazakhstan – 2005. The great generation of Kazakhstan: insight into the future. United Nations Development Program, United Nations Population Fund. Almaty. 2005.

The accelerated speed of population ageing for the last 50 years is observed in Asian-Pacific region as well, where more than half of the global elderly live. The proportion of the elderly has increased from 7.1 % in 1950 to 9.5 % in 2000; according to specialists, this figure would reach 15.4 % in 2025 and 23.5 % in 2050.[22] It is necessary to notice that population ageing in developing countries is significantly faster than in developed countries, and these countries are given less time to adapt to the consequences of this process. For today, the median age of the world is 27 years. The youngest population is fixed in Yemen, where the figure is 15 years and the oldest – in Japan, where the median age is 41 years. According to experts, by 2050 the median age for the whole world will increase by 10 years and will constitute 37.8 years (Tab. 1). In Kazakhstan the median age increased by almost 2 years within the period of 8 years. In 1999 the median age for males estimated 28.74 and 31.94 for females, in 2007 for males 30.02 years, and 33.32 years for females.

[22] Nizamiddin. M. Population ageing: policy responses to population ageing in Asia and the Pacific pp.95-97 (http://www.unescap.org/esid/psis/population/popseries/apss158/part1_4.pdf (23.08.09)).

Tab. 2: Median age of population in the world in 1950, 1998, and 2050 (forecast)

Regions	1950	1998	2050 (forecast)
World	23.5	26.1	37.8
Developed countries	28.6	36.8	45.6
Developing countries	21.3	23.9	36.7
Africa	18.7	18.3	30.7
Asia	21.9	25.6	39.3
Europe	29.2	37.1	47.4
Latin America and Caribbean	20.1	23.9	37.8
North America	29.8	35.2	42.1
Oceania	27.9	30.7	39.3

Source: Naselenie mira (www.novsu.ru/file/20873 (27.07.09)).

According to UNFPA experts, countries of the Asia–Pacific region can be conditionally divided into three groups in the context of the Population ageing:

1. Accelerated pace of the ageing process (25 % of older people by 2050) – Hong Kong, China, Thailand, Singapore, Sri Lanka, New Zealand, Kazakhstan, Azerbaijan, Georgia, and Armenia);

2. Average pace (from 20 to 25 % of older people by 2050.) – Mongolia, Malaysia, Vietnam, India, Turkey, Uzbekistan, Tajikistan, and Kyrgyzstan;

3. Slow pace (20 % of older people by 2050) – Cambodia, Philippines, Pakistan, Bangladesh, Lao People's Democratic Republic, and Turkmenistan. [23]

Kazakhstan has crossed a threshold of Population ageing rather recently, but in the near future this process will also be considerably accelerated. So, if the proportion of people aged 65 years and older in the total population estimated 6.7 % at the beginning of 1999, it was already 7.4 % in early 2004.[24] According to forecasts of Kazakhstan experts, this figure will increase by 11.2 % by 2030.

The population ageing is a focus of international organizations as an important process that profoundly affects future development of some countries and regions. The first international instrument on the population ageing is the International Action Plan on Ageing, which provides leadership in understanding and developing strategies and programs on ageing. This document was approved by the UN General Assembly in 1982 and aims at strengthening the capacity of governments and civil society to effectively address the challenges of population ageing and the opportunities of older people in their active participation in public life. International Plan contains 62 recommendations for the scientific and applied research, data collection and analysis. It covers several areas: social security, income generation and employment, education, health, family, housing and environment.

[23] United Nations 2002.World Population Ageing 1950–2050. United Nations publication, Sales No. E.02.XIII.3. (http://www.un.org/esa/population/publications/worldageing19502050/index.htm (24.08.2009)).
[24] Demographic Yearbook of Kazakhstan. 2004. Almaty. 2005. p. 20.

In April 2002 during the Second World Assembly on Ageing by United Nations member countries, the Political Declaration and the Madrid International Plan of Action on Ageing issues have been accepted. The Madrid Plan deals with policies on ageing in a broader sense than the narrow scope of social security, and emphasizes the need to discuss issues of development policy. It was recognized that the elderly are a powerful but untapped resource for society. The paper also developed recommendations on how policies should be adapted to the ageing world and build a society for all ages.

Demographic changes that have been faced by different countries due to the population ageing essentially influence economic growth and structure of the public expenditure. The majority of the European countries already suffer from heavy tax burden, and the authorities face resistance to high taxes. According to researches, ageing of Europe can cause economic troubles. In Italy the working–age population will be reduced by 20 % in 2005–2035, and by 15 % or more in 2050. If the employment rate and labor productivity will not increase proportionally, further decrease in the number of working hands will cause delay of economic growth. As the number of the working–age population will be reduced, the number of those who depends on the working population will grow accordingly. In Italy the proportion of people over 65 years will grow by 44 % between 2005 and 2050, working age population will decline by 30 % and, as a result, there will be growth in the proportion of dependent population from 32 % in 2005 to 67 % in 2050. The potential support ratio, i.e. the number of people of working age (15 to 64 years) for each person over 65 years, everywhere will decrease twice: approximately from four to two.[25] This ratio underlies social security schemes and indicates an increasingly high burden on future generations of the labor force.

The question of social and economic consequences of the population ageing is widely discussed in scientific and political societies of the EU countries. In nearest future the subsequent generations will be smaller compared to previous ones and their ability to provide the predecessors with life commodities will be reduced. According to research outcomes of the Koln University's demographer B. Felderer, in Germany it is required to considerably raise pension payments: by 2030–2035 they will make 30 % of wages. By then it is necessary to increase payments on health insurance by 30 % in comparison with the beginning of the 80's of the XX century. British demographer M. Palmer believes that as the population ageing tends to increase in the share of people with lower incomes, demand for production of some industries will be reduced as well.[26]

Financial manifestations of the ageing process in the near future will have an impact also in Armenia, Australia, China, Georgia, New Zealand, Singapore, Russian Federation and

[25] Greenblat, J-A. Immigracionnye scenarii dlya stareyushei Evropy. *Russkii arhipelag*. (http://www.archipelag.ru/agenda/povestka/povestka-immigration/europa-dis/staraya_europa/ (17.03.2008)).
[26] Ubaidullaeva, V. Demografiya – golovnaya bol' vsego mira. (http://www.review.uz/page/article/74.htm (28.08.2009)).

several other countries. Reducing the proportion of population of the working age in these countries could lead to a reduction in tax revenues. The number of workers relative to retirees is declining, increasing financial pressure on the Government to take measures to ensure adequate public pension schemes. In many ways, this leads to inequality between the generations in terms of division of financial burden.

Population ageing also leads to an increase in public spending on health due to the following common reasons in many countries: 1) the older population more susceptible to diseases and expresses increased demand on health services, 2) an average cost of health services is higher for the elderly than for the young, 3) family as an institution of caring for the elderly does not fulfill that role any more.

Demographic changes currently occurring cause changes in the relationship between different generations in families, local communities and societies as a whole At the same time, relationships between the generations is a very important factor for the future development of the society. As noted in the message of the ex–UN Secretary–General Kofi Annan, on the occasion of the International Day of the Elderly, October 1, 2003: 'Each of us can help build bridges between the generations, using the experience and skills of older people, whether in community or family affairs in rural or urban entrepreneurship, education, technology development or the arts, in the struggle for poverty reduction and peace building. The challenge ahead is to bring the invaluable quality of older people out of obscurity and to use them, along with other instruments of development, including work on the development goals of the Millennium Declaration, which is our main plan for building a better world in the twenty–first century'.[27]

Demographic and human development, including issues of the elderly, are very closely linked to the objectives of the Millennium Development Goals (MDGs), which largely determine the development of socio–economic policies in countries. MDGs include eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equality and empowering women, reducing child mortality, improving maternal health, combating HIV/AIDS, ensuring environmental sustainability, and developing a global partnership for development.

The solution of many problems and challenges within the framework of the Millennium Development Goals enhances human development. From this point of view, it is important for Kazakhstan to resolve issues such as low life expectancy, low birth rates, poverty reduction, affordability and quality of education for all generations, providing people with clean drinking water, elimination of environmental threats to health, protection of social risk groups, including the elderly.

[27] Poslanie General'nogo sekretarya OON Kofi Annana po sluchayu Mezhdunarodnogo dnya pozhilyh lyudei (http://www.un.org/russian/events/olderpersons/idop03.htm (29.08.2009)).

Today some countries are trying to use an integrated approach to improve the situation of older people. In Russia within the framework of the federal target program "Old people" a concept has been developed by the state social policy for senior citizens until 2010, which is focused on the need to ensure special economic and organizational measures to maintain the welfare of senior citizens. Considerable means are allocated for the program realization from the state budget.

Acceleration of the population ageing process became one of the serious problems which have risen in front of China in XXI century. Having the largest older population in the world, China has been proactive in ensuring adequate living conditions for older people and reducing ageing–induced pressure on the country's social development The central government and local authorities of China at different levels have developed structures of the work with old persons. The Law on protection of the rights and interests of the elderly is passed; old-age insurance, medical insurance and a living wage for the elderly are generated in cities. In many areas of the country the elderly have an opportunity to get free medical inspection, bus-trips and visiting of parks.

Experts in European countries offer two economic tools to address problems associated with ageing. First – this is an increase in employment among working-age population. At the Lisbon Summit in 2000 European Union leaders planned to increase total employment by 2010, up to 70 %, and among persons aged 55 to 64 years – up to 50 %. The second vehicle – this is an increase in the number of working people by rising the retirement age. But these proposals are extremely unpopular. In 2004, German politicians distanced themselves from the experts' proposals to increase retirement age to 67 years.[28]

The population ageing may take place in different ways. In most countries, it led to decrease in mortality and increased life expectancy level. The peculiarity of this process in Kazakhstan is that population ageing is the result of two factors: the decline in fertility and high mortality, especially among men of the working age. With disparities in male and female life expectancies still significant, the male and female populations continue to be out of balance, especially, in the older age groups.

The population ageing is a relatively new phenomenon for our country and has not yet received a full acknowledgement, and not adequately reflected in government policy documents and regulations. However, the increase in the proportion of the elderly in the population becomes an important factor affecting the socio–economic situation in Kazakhstan. This phenomenon poses new challenges to the state and at the same time opens up new possibilities for the lives of individuals and socio-economic and cultural environment of the society. Policies providing for investment in social relations, human resources and the economy can prevent

[28] Human Development Report Kazakhstan – 2005. The great generation of Kazakhstan: insight into the future. United Nations Development Program, United Nations Population Fund. Almaty. 2005.

unnecessary dependency at later stages of human life or as a result of population ageing. Provided effective investment is made in advance, ageing can be changed from a factor depleting resources to a factor building human, social, economic and environmental capacity.

Economic and social influence of the population ageing is simultaneously both a challenge, and possibility for any society. Some western experts notice that a relative increase in density of the elderly does not generate automatically negative influence on the economy. As an example Sweden can serve, where the share of people of 65 years and older the highest in European Union, but influence of a phenomenon of ageing on the economy does not cause serious concerns. These results from the fact that Sweden carried out activities directed to the improvement of position of the low-income groups, including pensioners, throughout several decades, that is a policy of incomes alignment. As a result, property contrasts in Sweden are not as significant as in other countries.

Kazakhstan is at an early stage of the introduction into a category of countries with prevalence of the elderly population. Solution of issues related to the population ageing demands a complex approach, and it is impossible to resolve the issues without development of the uniform concept of a state policy concerning older persons. Delivering of this policy can be defined as a set of measures of political, legal, economic, medical, social, scientific, cultural, and information character. Increase of the level and quality of life of the elderly on the basis of social solidarity, formation of the new attitude to an old age in life cycle should become its strategic target. It is necessary to notice that along with the government, a role of older persons can be strengthened in non-governmental organizations, scientific research institutes, professional organizations, mass-media, and business structures.

Chapter 5

Demographic development in Kazakhstan: trends and prospects

5.1 Sustainable demographic development as an important problem for Kazakhstan's overall development.

Safe and sustainable development of any country depend not only on the dynamics of political, economic, social and environmental processes, but also on the dynamics of demographic development, as the country's population represents both target and development factor. Therefore, Kazakhstan's President Nursultan Nazarbayev in October 1997, in his message to the people of the country "Kazakhstan-2030" has set the task: 'In the rank of the leading priorities of national security must be nominated by a strong demographic and migration policy. If our government agencies will continue to treat them indifferently, then we are on the threshold of the XXI century will face after Russia the situation of "demographic crisis", when the population has been declining not only because of external migration processes but also naturally. This trend must be stopped immediately'.[29]

In 2000, a conference on demographic development in Kazakhstan, the head of the United Nations Population Fund office in Kazakhstan A. Alzhanova reported: 'According to the United Nations, in 1997 there were 51 countries with a low birth rate. Most of them at some stage of development have made efforts to improve the demographic situation through the development of Population policy'.[30] Despite the national characteristics of such a policy in

[29] N. A Nazarbayev. The development strategy of the Republic of Kazakhstan till 2030. Almaty. 1997

[30] Alzhanova A. Pronatalistskaya politika razvityh stran //Narodonaselenie Kazahstana. Sb. materialov respublikanskoi nauchno–prakticheskoi konferencii. Astana. 2000. p.60-62.

each country, they are all connected with the main demographic processes – fertility and mortality, as well as population displacement or migration.

In Kazakhstan, an active population policy, have occurred since the late 90's (may be better to say positive demographic trends rather than population policy). The results of this policy were soon apparent. Kazakhstan has not faced the situation of "demographic crisis", since 2000 in the republic has been a steady increase in birth rates and natural population growth, and since 2004 positive balance of international migration has already taken place. Total fertility rate has increased by 1.5 times since 1999. Demographic trends demonstrate that depopulation as forecasted by a number of international organizations has not taken place.

5.2. Statistical analysis of a modern demographic situation in Kazakhstan

The population size and composition. By the number of residents, Kazakhstan possesses the fourth place amongst post–Soviet countries, after Russia, Ukraine and Uzbekistan and the second place by the territorial sign (after Russia). However, Kazakhstan remains one of the least populated countries in the world. The population density amounted only 5.6 people per square kilometer for January 2009. In Kazakhstan there are 14 oblasts and 2 cities of republican status, 39 cities and 45 towns of the regional level, and 7178 villages. The largest region is Karaganda region (428 thousand sq. km.), and the smallest – North Kazakhstan region (98 thousand sq. km.). The most populous region with a density about 20 people per square km is the South–Kazakhstan region, and the least populated region with a minimum population density of 2.3 people per 1 square km is Aktobe region.

After gaining its independence in 1991, Kazakhstan started the transformation process which resulted in the return of some ethnic groups (Russians, Germans, and Ukrainians) to their historical motherland. Therefore in a number of other CIS countries, including Kazakhstan the size and population structure have undergone considerable change. On October 1, 2008 population of the Republic accounted for approximately 15.7 million people. For the nine months of 2008 population increased by 159 thousand.

Decrease in birth rates, increase of death rates and considerable negative migration balance lead to the decrease in population up to the end of 2001. Later, since 1 January 2002, as a result of appreciable increase in birth rates of the population, inflow of immigrants and considerable decrease in emigration, population size has increased. And for 1 January, 2009 it constituted 15,778.2 thousand people. An aggregate number of the country's population has decreased in comparison with 1991, when 16,358.2 thousand people have been registered in the republic, and the decrease rate accounted for 580.1 thousand people or 3.5 % for 01 January 2009 (Tab. 3).

Tab. 3: Development of population change components in Kazakhstan in period 1990–2008 (in thousands)

Year	Total population at the beginning of year	Total increase	Natural increase	Migration increase	Total population at the end of year	Total increase in year %
1990	16,298.0	60.2	233.5	–173.5	16,358.2	0.4
1991	16,358.2	93.5	218.9	–125.4	16,451.7	0.6
1995	15,956.7	–280.9	107.4	–388.3	15,675.8	–1.8
2000	14,901.6	–36.0	72.3	–108.3	14,865.6	–0.2
2005	15,074.8	144.5	121.8	22.7	15,219.3	1.0
2006	15,219.3	177.6	144.5	33.0	15,396.9	1.2
2007	15,396.9	174.6	163.7	11.0	15,571.5	1.1
2008	15,571.5	206.7	204.2	2.4	15,778.2	1.3

Source: Data on The Agency of Statistics of the Republic of Kazakhstan

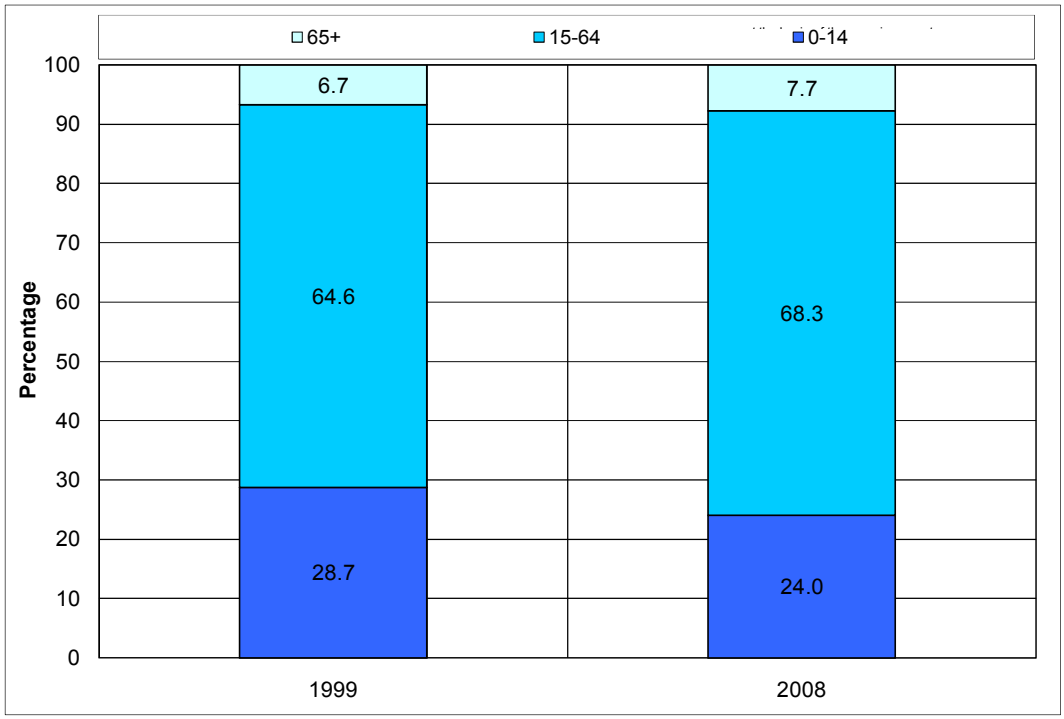
Population age-sex structure is mainly formed under the influence of demographic and socio–economic factors. In the gender dimension Kazakhstan had a noticeable outnumber of the proportion of female population. The number of men was equal to 48.1 % and women – 51.9 % for 01 January, 2009 from the total population. Per 1000 women there were around 928 men. [31]

Due to the decrease in birth rate, increased death rate and migration for the last seventeen years, the population age structure of the country has undergone some changes. The population age structure represented the following for 01 January, 2008: children under 15 years estimated 24.0 %, people at the age from 15 till 64 years 68.3 %, 65 years and older 7.7 % from an aggregate number, the youth share (16–29 years) hardly is more than quarter (Figure 1).

There is "population ageing" in the country as a share of the population at the age of 65 years and older has increased from 6.7 % in 1999 to 7.7 % in 2008. It partially can be explained by "demographic waves" in the population age structure. A population pyramid in the beginning of 1999 showed a wave of the population at the age of 56–63 years as a result of birth rate growth in pre–military years. This wave also was shown as an increase in the share of the population at the age of 65 years and older for the next years. However, the return, negative wave follows, which connected with decrease of birth rate during the Second World War. These waves repeat approximately every 25 years.

[31] Ministerstvo ekonomiki i byudzhetnogo planirovaniya Respubliki Kazahstan. Otchet kazahstanskogo instituta social'no-ekonomicheskoi informacii i prognozirovaniya po dogovoru o gosudarstvennyh zakupkah uslug po issledovaniyam v sfere nacional'noi i ekonomicheskoi bezopasnosti na 2006 god №55 ot 01 noyabrya 2006.

Figure 1: Population age structure of Kazakhstan in 1999, 2008 (at the beginning of year, in percentage)



Source: Data on The Agency of Statistics of the Republic of Kazakhstan (http://www.stat.kz)

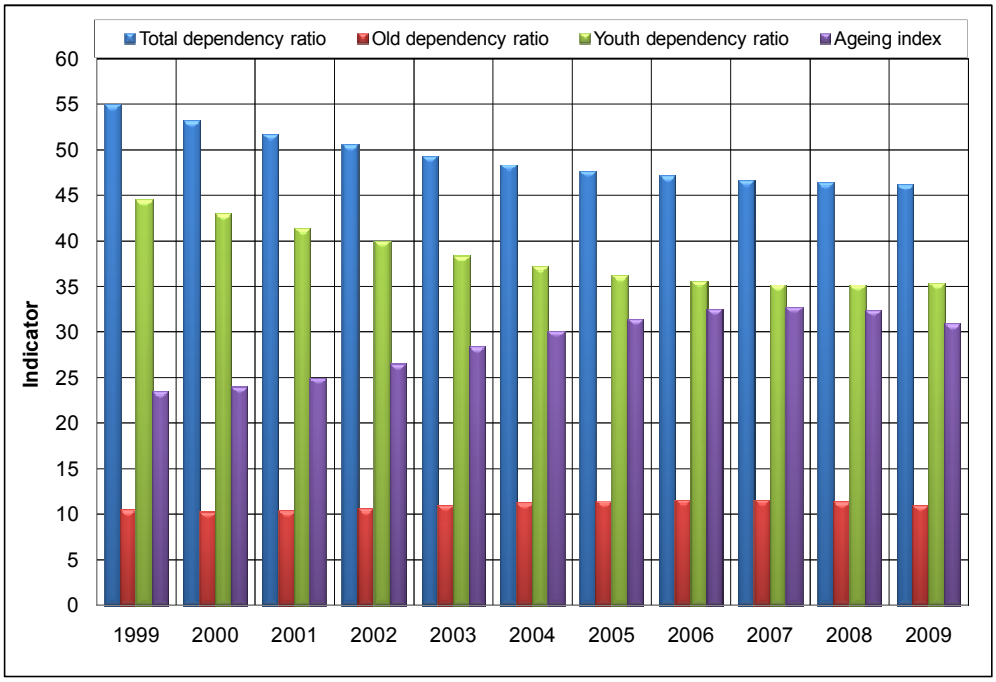
These indexes are based on the traditional demographic approach that encounters which means to take into account three main age groups: child group (0–14), the working age group (15–64) and the elderly age group (65+). The ageing index is calculated as the number of persons 65 years old and over per hundred persons under age 15. The total dependency ratio is the number of persons under age 15 plus persons aged 65 or older per one hundred persons between the ages of 15 to 64. It is the sum of the youth dependency ratio and the old–age dependency ratio. The youth dependency ratio is the number of persons 0 to 14 years per one hundred persons 15 to 64 years. The old–age dependency ratio is the number of persons 65 years and over per one hundred persons 15 to 64 years.

Changing in the share of age groups is very important for economical and social development of the country. Because of its influence on the labor market, consumer market, etc. Dependency ratios show us a situation concerning burden on the working age population in the republic. Generally, total dependency ratio in Kazakhstan, decreased recently. In Figure 2, we can see that it happened due to the decrease in the youth dependency ratio. Old dependency ratio is almost at the same level for the period between 1999–2009 years. Ageing index, which shows the speed of the population ageing, gradually increases. And by the demographic forecasts it will increase faster in future.

The disproportion of sex structure in the republic starts to develop already at the age of 26 years and older. Relative density of women considerably advances a share of men in old ages: in 65–69 years in 1.5 times, 75–79 years in 2.1 times and 85 years and older in 3.6 times. The observed sex disproportion is explained by high death rates for men in comparison to death rates for women.

The general indicators of reproduction of the population. In the first half of the 1990's was the second "war echo", when the small generation of children also small generation of the people who were born in days of the Second World War, has entered in fertile age. Level of reproduction of the population in 90's was affected also by crisis of transition years on the post-Soviet territory when the earlier unknown hyperinflation, scale unemployment, "falling" of public health services systems, social security. Now consequences of the second "war echo" and crisis of birth rate of this period according to forecasts will respond a reciprocal wave after 2015, when this small generation will reach a reproductive age.

Figure 2: Dependency ratios and Ageing index in Kazakhstan, in period 1999–2009



Ageing index – number of persons aged 65 and older for 100 children aged 0-14.
Total dependency ratio – number of children aged 0-14 and number of persons aged 65 and older for 100 persons aged 15-64.
Old dependency ratio – number of persons aged 65 and older for 100 persons aged 15-64.
Youth dependency ratio – number of children aged 0-14 for 100 persons aged 15-64.
Source: Authors' calculation based on data of Agency of Statistics of Republic of Kazakhstan.

The measures taken by the Government in the field of demographic development in 2001–2008 have allowed achieving appreciable growth of fertility levels by this time, some reduction of mortality and growth of life expectancy of the population, transition of migration from negative to positive balance. As a whole preconditions to steady growth of a population have been created. In 2002–2003 the republic's population growth was positive. It was because of positive balance of a natural increase of the population, which was over negative balance of external migration. Since 2004 net migration has changed to positive value. For 1991–2008, the population's natural increase in the republic has made 2200.1 thousand people, and per 1000 inhabitants it has made 13.0 people in 2008.

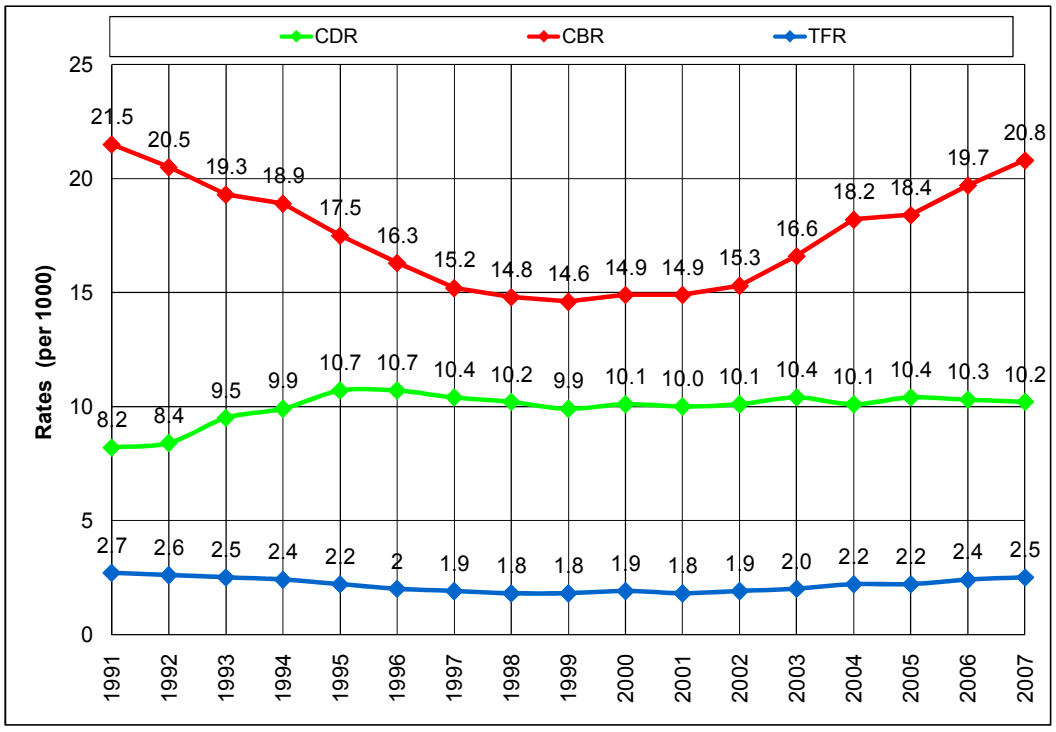
Tab. 4: Number of births, deaths and natural increase of Kazakhstan population (in thousand)

Year	Birth	Death	Natural increase	Crude birth rate	Crude death rate	Natural increase rate
1990	362.1	128.6	233.5	22.2	7.9	14.3
1991	353.2	134.3	218.9	21.5	8.2	13.3
1995	276.1	168.7	107.5	17.5	10.7	6.8
2000	222.1	149.8	72.3	14.9	10.1	4.8
2005	279.0	157.1	121.9	18.4	10.4	8.1
2006	301.8	157.2	144.5	19.7	10.3	9.4
2007	322.0	158.3	163.7	20.8	10.2	10.6
2008	357.6	153.3	204.2	22.9	9.9	13.0

Source: Data on The Agency of Statistics of the Republic of Kazakhstan

The lowest level of birth rate since 1991 was recorded in 1999 and amounted 14.6 per 1000 inhabitants. In 2007 the level of birth rate was at the level of indicators for 1991–1992. Death rates over the last 10 years, practically, have not changed and make about 10 persons per 1000 inhabitants. Total fertility rate in 2007 has made 2.5, i.e. on every two mothers at the age from 15 till 49 years 5 babies are born. Level of birth rate of boys exceeds birth rate level of girls; in both cases their growth is observed. The birth rate for boys in 1999 was 15.6 per 1000 inhabitants, and in 2007– 22.2 persons, girls respectively, 13.6 and 19.5 people (Figure 3). In 1991–2008 years, in the Republic was born 4965.5 thousand people. Crude birth rate of population in the country in 2008 year per 1000 persons was 22.9 births. Total fertility rate (TFR), which shows the average number of children born to a woman throughout the fertile period (15–49 years) increased from 1.8 in 1999 year to 2,7 in 2008. In 1991–2008 years in the Republic died 2,765.3 thousand people. It should be noted that the "peak" of deaths occur in 1995 (168.7 thousand). Death rate then declined from 10.7 deaths in 1995 year to 9.9 – in 1999, and then with small fluctuations in 2008 year once again reached a value of 9.9.

Figure 3: Crude death rate, Crude birth rate and Total fertility rate of Kazakhstan in period 1991–2007



Source: Data on The Agency of Statistics of the Republic of Kazakhstan http://www.stat.kz

Among the main causes of mortality for the population of Kazakhstan on the first place there are deaths from circulatory diseases, the second – cancer and the third reason – the most manageable, which accounts for more than 15 % of all deaths – such as trauma, poisoning and accidents, especially those connected with traffic accidents. Significant impact on the number and length of life affects infant mortality rate (under 1 year). In 1000 births in the republic, it fell from 27.4 in 1991 to 14.5 percent in 2007. In 2008, after the republic's transition to WHO criteria for live births and stillbirths, infant mortality rate increased by about 1.5 times. The main causes of child mortality, under 1 age are mortality from conditions arising in the perinatal period (from 28 weeks of pregnancy, including birth and the first seven days of life), congenital anomalies and respiratory diseases, which account for over 80 % of child deaths.[32] The high death rate leads to a very large part of both, men and women, die in young age or in adulthood. Calculations according to life expectancy show that among men aged 26 die before reaching their 50th birthday, almost one in five, before retirement age (63 age) – 46 %, till 65 age – half of it. Among women aged 26 do not survive till their 50th birthday each fifteenth of them, till the retirement age (58 age) – one in eight, and till 65 age– one in four (Tab.5).

[32] Shokamanov Yu.K. Tendencii chelovecheskogo razvitiya v Kazahstane. Almaty. 2001. p.141-144.

Tab. 5: The proportion of people not surviving to age 60 by sex and age in 2003 (in percentage)

	Aged 0	Aged 20	Aged 30	Aged 40	Aged 50
Men	43.1	41	38.7	34.4	25.0
Women	19.2	17.1	16.0	14.2	10.3

Source: Authors' calculation based on data of The Agency of Statistics of the Republic of Kazakhstan (http://www.stat.kz)

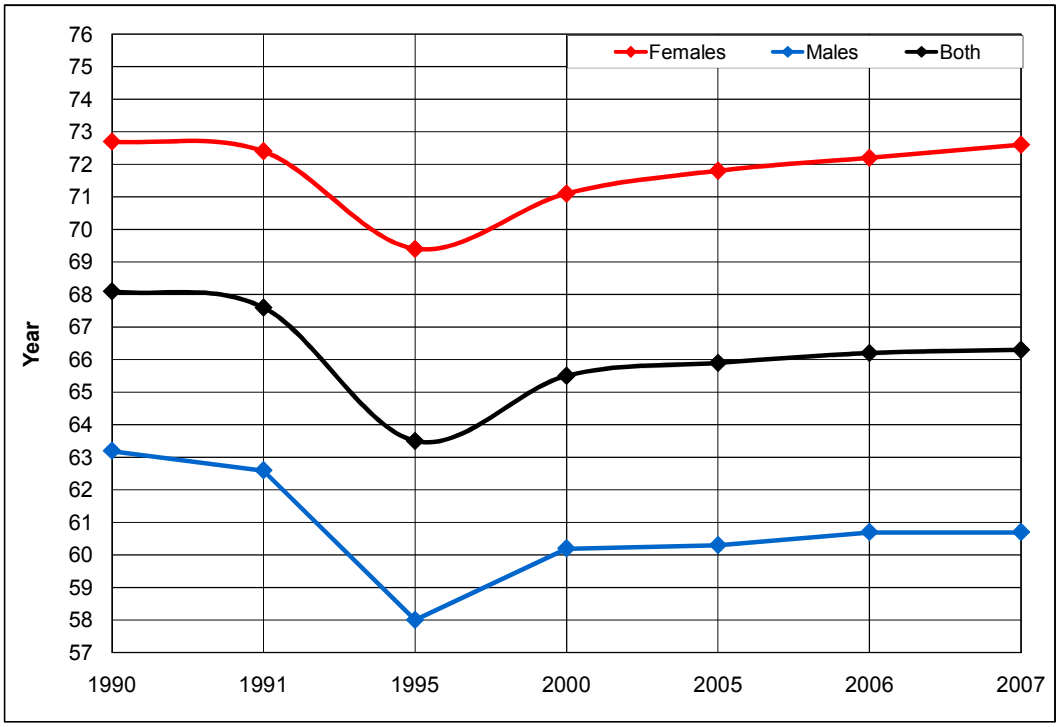
The huge mass of the population of the Republic is dying in their adulthood before they will reach old age. This leads to a reduction in life expectancy and, as a consequence, a significant decrease in number of population, as well as opportunities for human development. Life expectancy at birth, being a component of the index of human development, is a generalized indicator characterizing the possibility of a long and healthy life of the population.

In the first half of 1990's in Kazakhstan life expectancy of both sexes reduced, but the second half of the 1990's it slightly increased (Figure 4). However, there remains considerable differentiation of this indicator by gender, the reason of the problem is high level of male mortality. The gap between female life expectancy and men life expectancy increased from 9.5 years in 1990 to 11.5 years in 1995. As a result, a growing number of widows and children left without a father. In turn, this leads to lack of income in the family and the shrinking opportunities in the field of education, which increases the risk of being unemployed. Ultimately, it means reduced opportunities for human development, potential spouses and children and in other areas – health, housing, etc.

Major impact on mortality and decline of life expectancy have an unfavorable ecological situation, lack of drinking water and its quality (almost a quarter of Kazakhstan's population has this problem), unbalanced and insufficient nutrition, failure to comply with sanitary – hygienic norms, limited access to timely and full health treatment. In comparison, with the same 1990's the country's economy has lost nearly 100 thousand working-age population that is very harmful to the market of labor resources.

In order to achieve a number of Kazakh society to 18.18 million to 2024 year, defined as settings in the Concept of Kazakhstan's transition to sustainable development at the 2007–2024 year, approved by the Presidential Decree of 14 November 2006 number 216, the Government should take certain measures. In particular, the significant reduction in mortality, increasing of fertility level continue to promote through appropriate public policy in the field of demography, debug and substantially support the health system, take measures to protect the health of mother and child.

Figure 4: Life expectancy at births in Kazakhstan in period 1990–2007



Source: Data on The Agency of Statistics of the Republic of Kazakhstan

In modern conditions the migration has gained stimulus in the development of the international dimension (forming the world labor market) and it is an essential side of the world economy. Migration changes quantitative and qualitative composition of the economically active population. A number of researches have shown that the dominant motivations for migration are economic reasons, job search and high salary.

In 2004, the first time after 36–year period, in Kazakhstan, there was positive balance of international migration, which amounted to 2.8 thousand people. In 2005 and 2006 there was a positive balance of external migration of the population, amounted to 22.7 and 33.0 thousand people. Later it began to decline gradually, reaching, in 2007, 11.0 thousand and in 2008 2.5 thousand people. During 1991–2008, international migration in the republic constituted 1,294.5 thousand immigrants and left 3,331.1 thousand emigrants. The negative balance of migration within this period accounted for 2,036.6 thousand people [33] (Tab. 6).

[33] Shokamanov Yu.K. Demograficheskoe razvitie Kazahstana: sostoyanie i perspektivy. Informacionno-analiticheskii centr – Ekspertnaya ocenka (http://www.ia-centr.ru/expert/3879/ (03.09.2009)).

Table 6: International migration in Kazakhstan in period 1999–2008 (in thousand)

Year	Total		CIS countries		Non CIS countries	
	Immigrants	Emigrants	Immigrants	Emigrants	Immigrants	Emigrants
1999	41.3	164.9	39.5	120.2	1.9	44.7
2000	47.4	155.7	43.5	116.7	4.0	39.0
2001	53.5	141.7	49.9	101.0	3.6	40.7
2002	58.2	120.2	54.2	85.3	4.0	34.9
2003	65.6	73.9	60.8	49.3	4.8	24.6
2004	68.3	65.5	61.8	46.9	6.5	18.6
2005	74.8	52.1	65.8	40.7	9.0	11.4
2006	66.7	33.7	56.6	30.3	10.1	3.4
2007	53.4	42.4	42.6	39.8	10.8	2.7
2008	47.7	45.2	31.5	42.9	16.2	2.4

Source: Data on The Agency of Statistics of the Republic of Kazakhstan

5.3. Kazakhstan's demographic future

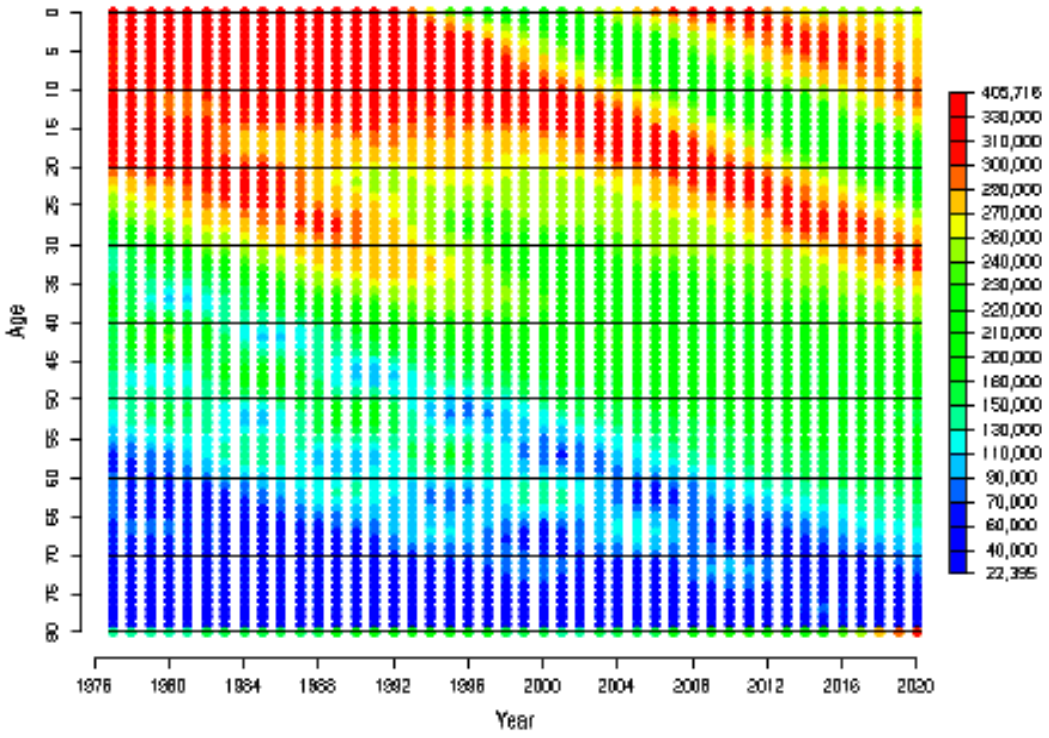
Figure 5 – known as a "heat chart" – depicts changes in the Kazakhstan's age structure of the population through time. Each dot denotes the number of people in a specific age group for a given year. Hence, dark red color denotes the largest concentration of people, by age, for a given year, while dark blue color means the lowest concentrations. A single dark red dot is equal to nearly 406.000 people while each deep blue dot shows more than 22 000 people and other color shades correspond to in–between population totals (each by age group).

In the upper left corner of the figure is an area of bright reds and yellows which describe a population boom that began in the mid 1970's and continued until the late 1990's. The debris of that boom spread downward from the left to the right across the figure. The band also narrows as this population segment ages. This feature reflects a reduction in the total number involved in the population convexity – a consequence of immigration. For example, many ethnic Germans and Russians left Kazakhstan after the end of Soviet Union period. In the lower left side of the figure is a preponderance of deep blue dots, indicating a relatively small number of old people in the age of 60 and older. Over time these deep blue colors are replaced by lighter blues and greens, a pattern reflecting a gradual but steady increase in the number of old age people.

Kazakhstan's population has fluctuated over time, rising during the 1980's and then declining during the 1990's (again mainly due to immigration). A low point occurred in 2001 but the total has been rising after that. The upward trend is expected to continue through 2020 when total population reaches an all–time high of 16.7 million – reflecting an increase of 1.8 million

between 1980 and 2020. The number of working age population (those between 15 and 64 years of age) will experience fewer and smaller fluctuations – increasing by 1.9 million over the four–decade period. Finally, the number of those over 60 years will nearly double during 1980–2020, growing by more than 1 million.

Figure 5: Age structure of the Kazakhstan population at a Glance, each dot represents a single age group



Source: Euromonitor International from National Statistics. Future demographic–Kazakhstan

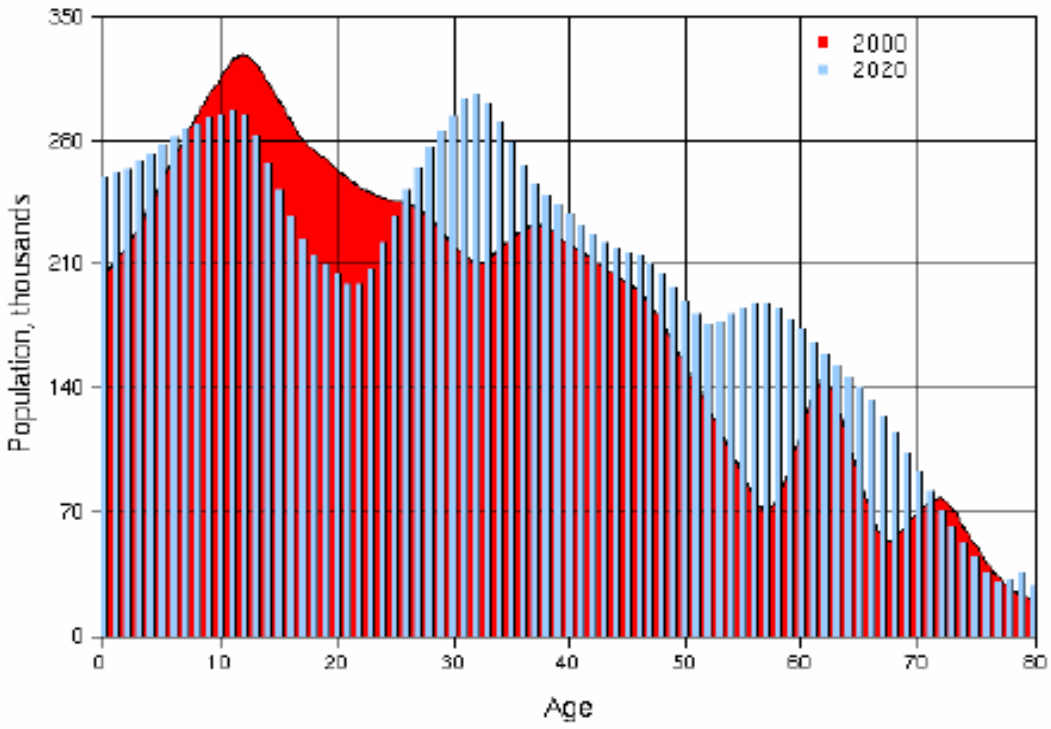
Figure 6 compares the demographic structure by age in 2000 and 2020. There are two age groups where the population in 2000 is expected to exceed that in 2020. The first and largest difference occurs among those between 8 and 25 years and is denoted by the red area near the upper left corner of the figure. The second example refers to people between 72 and 77 years though the difference between the totals for the two years is negligible. For all other age groups, the population in 2020 will be greater than that in 2000, sometimes by significant numbers.

These population shifts will lead to changes in Kazakhstan's broad demographic indicators:

- The youth dependency ratio (the number of people 0–14 years relative to the number aged 15–64) will decrease from 0.472 in 2000 to 0.378 in 2020;
- The elderly dependency ratio (the number of people over 65 years relative to the number aged 15–64) will rise from 0.104 in 2000 to 0.132 in 2020;

- The government has introduced numerous improvements in the pension system but the number of those over 65 years will increase by more than 60 % between 1980 and 2020, putting great pressure on existing social programmes.

Figure 6: Population Age shift 2000 and 2020, each column represents a single age group



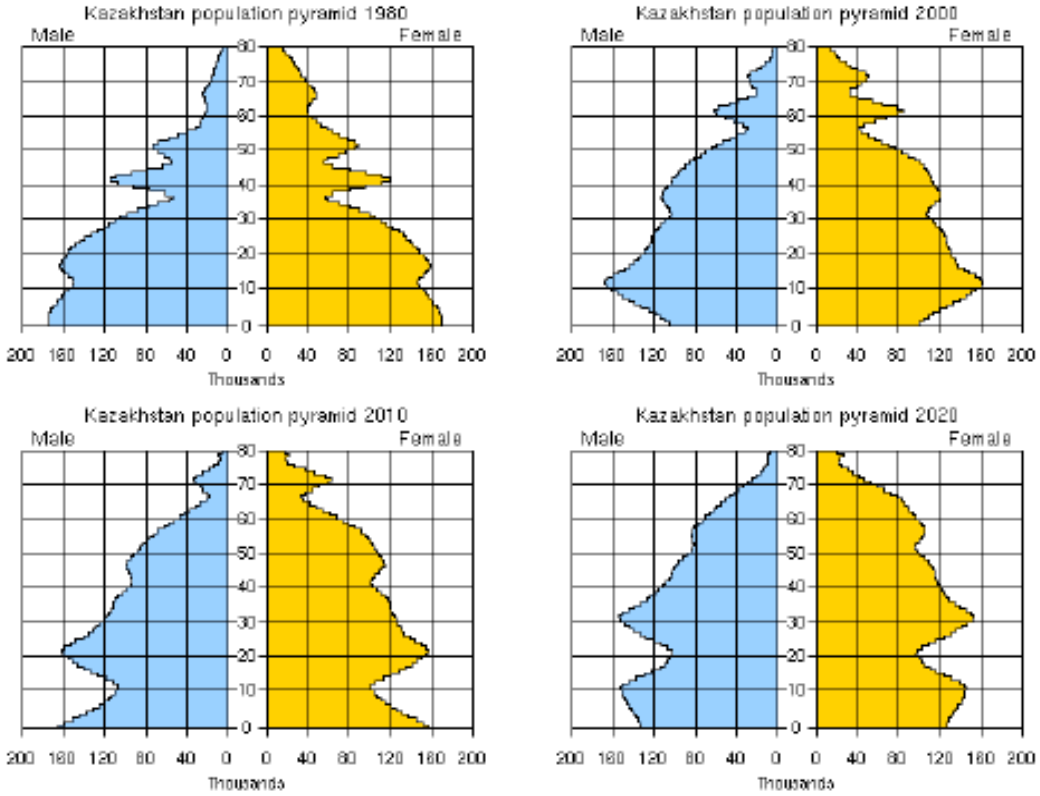
Source: Euromonitor International from National Statistics. Future demographic–Kazakhstan

Figure 7 compares Kazakhstan's population and age structure by gender. The figure for 1980 is a typical population pyramid but with several pronounced population waves– for example, one between 40 and 44 years and another between 50 and 54 years. Over the next several decades, the shapes of the pyramids change with the proportion of those under 20 declining steadily. In 2020, the population under 20 years will represent 31.8 % of the total, down from 43.0 % in 1980.

Another important feature showed by Figure 7 is the significant difference in the population of older males and females. By 2020, Kazakhstan will have more than 1.4 million women (1,435.030) older the age of 60 compared with just 823.300 males. Most of this difference can be explained by the longer life expectancy of females. In 2007, women on average live 72.6 years compared to a figure of just 61.8 years for males. This gap – a difference of almost 11 years – is unusual, being substantially greater than that found in most other countries. Of equal concern is the fact that the life expectancy of both sexes is falling. Men's life expectancy has declined by 3.6 years in recent years while that of women has dropped by 1.6 years.

- Health officials are more concerned about the rising mortality rates of working–age males. Nowadays, this indicator is increasing 3.5 times faster than that of working–age females. The trend is most significant among urbanites, with the mortality rate of urban working–age men estimated at four to five times higher than the national average;
- Government statisticians and health specialists attribute the disparity to a combination of factors. Falling safety standards in industries where urban males predominate (especially in mining, construction and metallurgy) are one reason. Behavioral factors, life–stile, also play a role, with smoking, alcohol abuse, poor nutrition and lack of physical activity all causing men's health to deteriorate.[34]

Figure 7: Age and sex pyramids of Kazakhstan in 1980, 2000, 2010, and 2020.



Source: Euromonitor International from National Statistics. Future demographic–Kazakhstan

In recent years Kazakhstan is experiencing a rapid change in population age structure, given its ageing. According to the United Nations, a society in which the proportion of the population over the age of 65 years accounts 7 % relates to the ageing population. Kazakhstan crossed this threshold relatively recently. If at the beginning of 2000, the percentage of people

[34] Evromonitor International from National Statistics. Future demographic–Kazakhstan

of that age in the total number comprised 6.8 %, at the beginning of 2005 it already accounted for 7.9 %.

To a certain extent it is connected with strongly pronounced waves in the age structure of the population. The population pyramid in the beginning of 1999 showed a wave of the population at the age of 56–63 years as a result of birth rates growth in prewar years. This wave also showed an increase in the share of the population at the age of 65 years and older last ten years. Return however follows, negative, a wave connected with decrease of birth rates during the Second World War. These waves repeat approximately every 25 years. What will be the number and population structure in future? Whether the currently observed population ageing in the republic is a temporary phenomenon?

There are number of forecasts, and they predict similar trends but with different parameters which are of notable importance for demographic development. Three main medium forecasts are suggested to describe future demographic situation: one of them is calculated by the United Nations (UN), second forecast is proposed by the Agency on Statistics of the Republic of Kazakhstan (Stat.kz), and the third forecast belongs to the United Nations Fund for Population Activities in Kazakhstan (UNFPA). Analysis of these forecasts gives us a picture of future trends in demographic situation.

Calculations of the demographic development of Kazakhstan in the light of the dynamics of total fertility rates, life expectancy at birth and the balance of external migration methods of annual population shifts on the basis of the population age pyramid at the beginning of 2005. The analysis also endows with a possibility to estimate age-specific fertility rates and the probability of death for men and women in every age by using the Spectrum software package. The calculations results of the average (second) version of the forecast population of the country (while ensuring to reach target values of Total fertility rate, life expectancy, and maintaining the balance of international migration at the level of 2005) show that the republic's population will increase by 2030 for more than 5 million people and reach 20.2 million (Tab. 7).

In the beginning the number of newborns will grow up to 350.8 thousand in 2013 (due to fluctuations in the number of women of childbearing age – 15–49 years old), and then drop to 302.2 thousand in 2025 and once again grow to 308.6 thousand in 2030. The crude birth rate would first increase to a value of 21.18 per cent in 2012. And then gradually decrease to a value of 15.25 per cent in 2030.

Number of deaths will first be reduced by 135.3 thousand people in 2018. And then will grow to a value of 145.1 thousand in 2030. This increase in the number of deaths will be associated with an increase in the median age to 34 years in 2030. The crude mortality rate will decrease to a value of 7.15 per cent in 2028 and increase slightly in subsequent years. At the same time a decrease in the period from 2018 will be fixed at a higher growth rate of the population than the number of dead.

Tab. 7: Population forecast and reproduction of the population in 2006–2030.

	2006	2010	2015	2020	2025	2030
Population (annual average), million	15.31	16.06	17.21	18.33	19.30	20.23
Including:						
Males	7.37	7.75	8.35	8.95	9.47	9.98
Females	7.94	8.31	8.86	9.38	9.83	10.25
Number of births in thousands	290.1	332.7	349.1	324.8	302.2	308.6
Number of deaths, thousands	155.6	149	139.9	137.4	140	145.1
Balance of international migration, in thousands	22.7	22.7	22.7	22.7	22.7	22.7
Crude rates for 1000 persons, the average annual number:						
Birth	18.95	20.72	20.28	17.72	15.66	15.25
Death	10.16	9.28	8.13	7.5	7.25	7.17
Net international migration	1.48	1.41	1.32	1.24	1.18	1.12

Source: Shokamanov Yu. K. (**http://www.ia–centr.ru/expert/3879/)**

It should be noted that according to forecasts by UN and World Bank specialists for the last 10–15 years, Kazakhstan's population will decline in the medium and long term. For example, according to forecasts by specialists of the World Bank for 2007, Kazakhstan's population will reduce to 14.5 million in 2030, while by 2050 – up to 12.6 thousand people.

Estimates of the Statistics Agency of Kazakhstan for the period from 1998, displayed picture of population growth in the republic by 2030: up to 18.5 million, while by 2050 the figure will reach 23.4 million people.[35] Statistics also show that Kazakhstan's population is gradually increasing since 2002 both due to natural or mechanical growth, and the results of the short–term forecasts surpassed. It can convince of the forecasts correctness and that the republic is making some steps to improve its demographic development.

The results of the Kazakhstan's population forecasts up to 2030 developed by UNFPA on the population annual shift method and the population age pyramid in early 2003 are described. Projections show that the republic's population will increase by more than 1 million every five years and by the beginning of 2030 will constitute 20.9 million. As a result of reduction in male mortality indicators, in 2030 there will be 945 men per 1000 women. Already in 2006 the number of births will exceed 300 thousand people and will stay above this level throughout the reporting period, reaching its peak in 2015 – 378.9 thousand. Crude birth rate reaches a maximum in 2010, estimating 23.0 per thousand, and then will gradually decline – to a level of 16.0 per thousand in 2030.

[35] Shokamanov Yu.K. Skol'ko kazahstancev mozhet byt' v 2030 godu? //Al'Pari. 1998. № 4. S.53–57.

The number of deaths will gradually increase to 156.8 thousand people by 2010, which is associated with an increase in the proportion of people aged over 65, then within 10 years it will decline, falling to a value of 147.2 thousand in 2020, aided by a significant reduction in mortality during this period. After it again will increase (up to 160.6 thousand in 2030) because of ageing population. While crude death rates will steadily decrease to 7.6 per thousand in 2025 and thereafter will remain at that level.

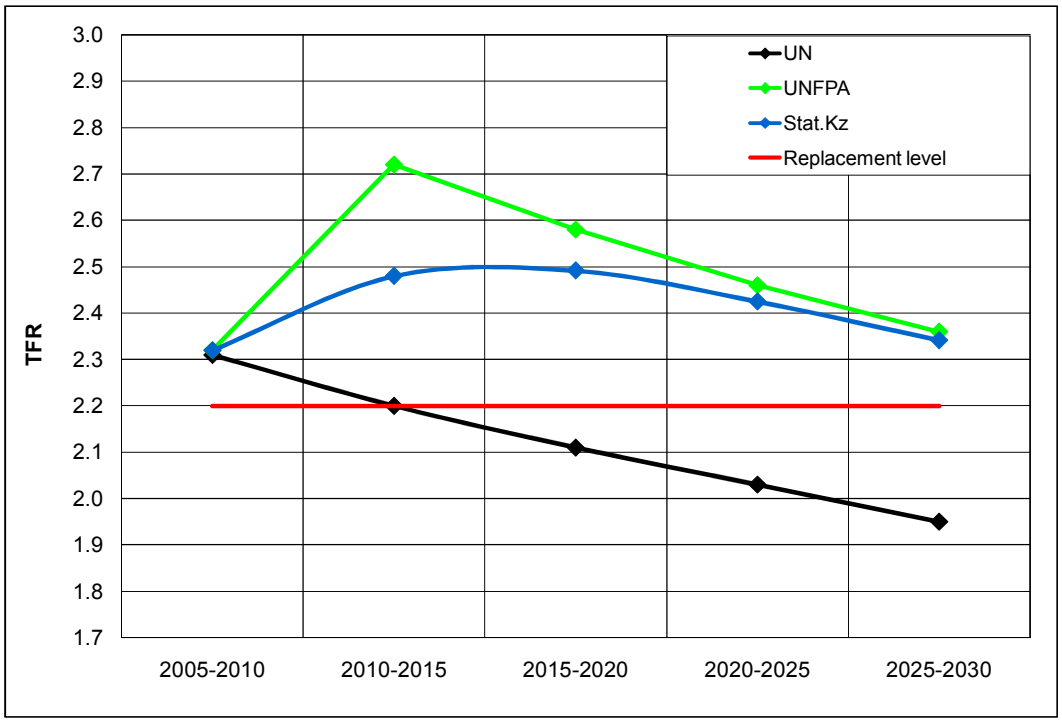
Analysis of the population age structure, obtained as a result of the forecasts, shows that an increase in the proportion of people aged 65 and older to 7.8 % in 2005 will decline magnitude 7.2 % for 2010–2015. In future a pronounced Ageing process is expected, resulting in the increase of the proportion of older people by 2030 by 11.5. Proportion of children under age 15 will increase from 24.5 % in 2005 to 28.9 % in 2020, and then will gradually decline to a value of 24.4 % by 2030.

Total dependency ratio[36] will significantly (1.3 times) increase in the period from 2005 to 2025 (from 536 to 713), and then will slow down (to a value of 668) as a result of a substantial reduction in the proportion of children under 15 years. The sharp increase in total dependency ratio will take place from 2010 up to 2020, mainly due to the growing proportion of children aged 0–14 years, and after 2020 – due to an increase in the proportion of people aged 60 years or more. This prediction leads to a conclusion about the relevance of continuous policy of state support for motherhood and childhood, as well as the establishment of a social security system, ensuring proper provision for the elderly.

Comparative analysis of three main forecasts for Kazakhstan provides the following results: Fertility level in Kazakhstan will increase by 2015 and after it will slowly decline according to the forecasts of the United Nations Fund for Population Activities in Kazakhstan and Kazakhstan's Statistics Agency. According to UNFPA, it will grow from 2.32 till 2.72, and by 2.48 for the period of 2010–2015 according to the Statistics Agency, and after Total fertility rate will decline till 2.36 (UNFPA) and 2.34 (Stat.kz). The reason of increasing in Total fertility rate is the significant ratio of potential mothers. United Nations forecast shows other tendencies in changing of Total fertility rate parameters. It shows gradual decline of fertility level and in 2030 year it will be below replacement level (Figure 8).

[36] Age dependency ratio is calculated per 1,000 people as a ratio of people of non-working age to people of working age. These calculations are based on the ratio of people under age15 and people aged 60+ to people aged 15–59.

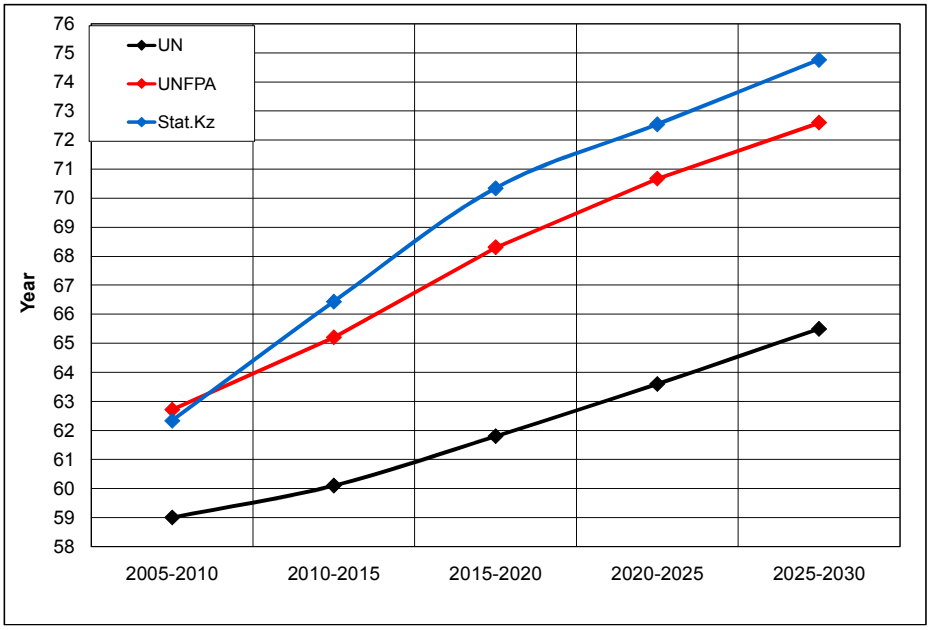
Figure 8: Forecast of Total fertility rate in Kazakhstan, in period 2005–2030



Source: Agency of Statistics of the Republic of Kazakhstan, United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

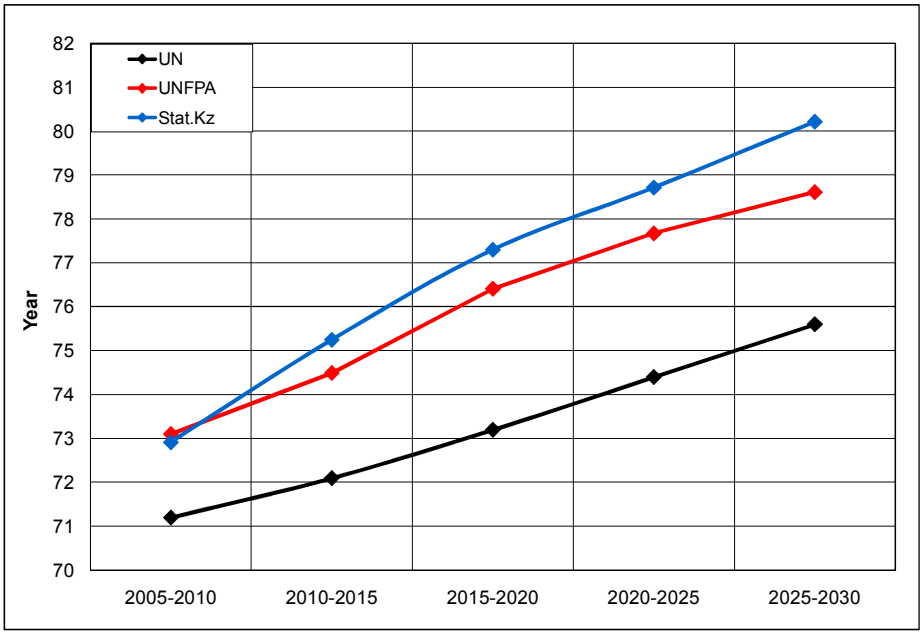
Generally, life expectancy at birth for both sexes for the period of 2005–2030 will increase according to all 3 forecasts in Kazakhstan. Social, economical, medical conditions will be improved and they influence life expectancy of the population. According to the United Nations, life expectancy will increase from 59 to 65.5 years for males and from 71.2 to 75.6 years. Statistics Agency and UFPA estimates show that male's life expectancy will increase by 2 years or more every five years till 2030. Female's life expectancy will also increase, but more slowly than male's. For the period of 2005–2030 male life expectancy will increase totally by 10 years (UNFPA) and almost by 12 years (Stat.kz) for females – 5 years and 7 years, respectively.

Figure 9: Forecast of Life expectancy at birth in Kazakhstan, males, in period 2005–2030



Source: Data on The Agency of Statistics of the Republic of Kazakhstan. United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

Figure 10: Forecast of Life expectancy at birth in Kazakhstan, females, in period 2005–2030



Source: Data on The Agency of Statistics of the Republic of Kazakhstan. United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

The age composition is important from an economic point of view for the dependency ratio indicators, i.e. the ratio of population of the working and non–working (children and the elderly) age groups. These indicators give a quantitative description of the generalized age structure of populations and the unproductive population burden on the society. Dependency ratio of children and old dependency ratio give total dependency ratio of population.

Dependency ratio of the population, determined by the population ratio, is a ratio of younger and older working age to population of the working age. Over the last 8 years the dependency ratio in the country has steadily decreased – from 736 in 1999 to 577 people within the working age per 1000 persons of the working age. At the same time, this indicator is higher in the cities by 22 % than in rural areas.

The youth dependency ratio is higher than old dependency ratio more than 2.5 times. This circumstance results not only from the increase in birth rates, which is a positive phenomenon, but from the number of the elderly tends to decrease and this is associated with an increased mortality with the transition into older age groups.

In this case, if the working-age population of older people has about a similar dependency ratio as in urban and rural areas with a slight excess of 10 % in the first case, the burden on working–age young people in villages is for one–third higher than in urban areas. It should be noted that if the urban indicators of youth dependency ratio exceed two times old dependency ratio, it is higher by more than threefold in rural areas. This is due to the fact that, firstly, fertility rates are significantly higher in rural areas than in urban areas, and secondly, due to the intensive migration of the working age population from rural to urban areas, and increasing pressure on people who continue to work in rural areas. A slight reduction in the population pressure by persons over working age (from 203 in 1999 to 164 people in 2005) demonstrates unfavorable demographic situation in the country which negatively affects perspective labor potential development.

In Kazakhstan the number of older people has exceeded 7.2 percent of the total population. According to the United Nation's definition, when the elderly population reaches 7 percent – the country crosses the Ageing threshold and refers to ageing nations. The Ageing population may result from various factors. In most countries Ageing is due to a reduction in mortality and increased life expectancy. The peculiarity of this process in Kazakhstan is that this process results from two factors: decline in fertility level and high mortality level, especially among men of the working age. If the significant difference in life expectancy between men and women is preserved, the imbalance in the number of male and female population will tend to increase, particularly in older age groups.

Population ageing affects different spheres – economic growth, savings, consumption, taxation and transfers between generations. Population ageing, being not only a demographic phenomenon, can define processes in economic and political spheres, reflecting Ageing of electorate and represents interests of various age groups, and also growth of dependence of older persons from economically and socially active population.

Increase in the growing old population can deepen the burden on the state financial system. It is defined, the assumption that the elderly population brings insignificant contribution to the economic development. However, many older persons work and studying of their participation in social production and features of elderly workers can give more accurate picture of their contribution to the economy. The given information is useful both for economic development planning and development of pension provisions.

Employment of the elderly population is the widespread phenomenon all over the world and consequently is an absolutely normal phenomenon. But it is necessary to distinguish negative and positive sides of this phenomenon. In many respects it is defined by a current situation on the labor market and labor force. Shortage of the labor force promotes involving of the elderly population in production and longer stay on the labor market, for example as a result of pension age increase.

Employment of the elderly population can be considered as a positive phenomenon, namely as a decreased burden on the working age group, their employment in production gives the chance for them to receive an additional income and thus maintain higher living standards, including psychological satisfaction from the involvement into the labor activity as well.

Distinctions in employment and incomes of men and women increase gender gap in pension provision raise the poverty risk for elderly women. About 70 % of elderly women refer to a category of the poor. More expressed vulnerability of women of the pension age is explained by the fact that pensioners in general represent a risk group in terms of poverty; furthermore, the majority of them remain alone in an old age because of the considerable difference in life expectancy between men and women: expected life expectancy at birth for women has estimated 71.8 years in 2005 compared to a similar indicator for men – 60.3 years.

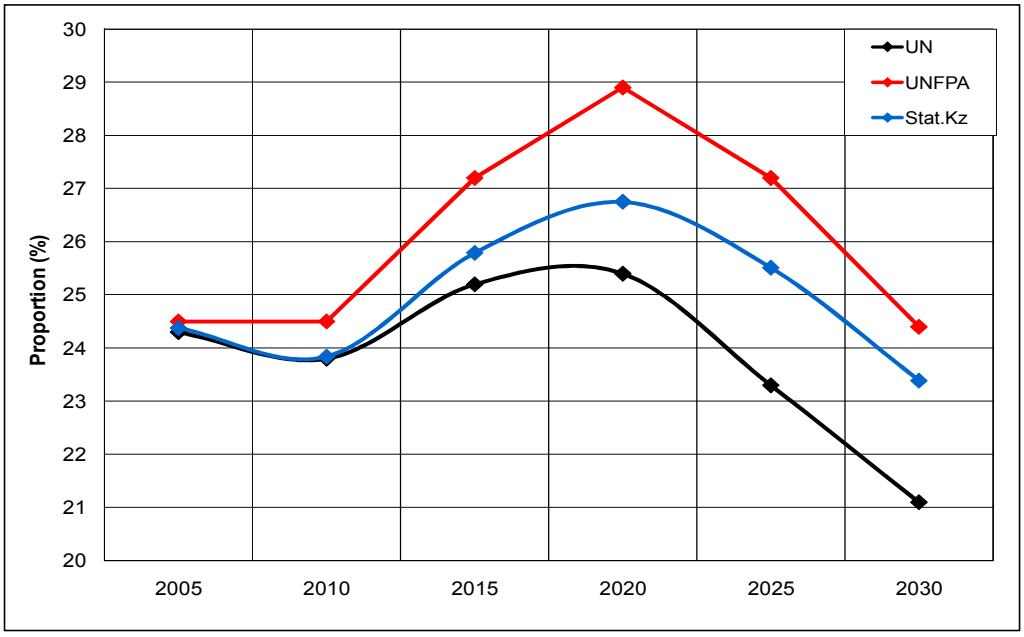
Employment of the elderly population which would allow this group of people to receive additional incomes and reduce the burden on the working age group, it is necessary for the state to promote the following activities to ensure economic development:

- Increase population employment rates in general;
- Ensure economic and legislative conditions for business development that will promote involvement of not only the working age population in small and medium businesses, but also people of advanced age.

Increase of the living standards for the elderly would also be promoted through the expansion of opportunities and improvements in crediting of households whose members appear to be older persons. Creation of such conditions for the solution of economic problems of households with joint residing of people of two–three generations would allow improving the living conditions for the elderly members of families and also to strengthen family institute as a whole, and promote communication between generations through economic acknowledgement of the necessity and importance intergenerational values.

It is clear, that changes in Total fertility rate and life expectancy at birth will lead to changes in the population age structure in Kazakhstan. Proportion of children, i.e. people from 0 to 14 years will have wave in the future. It will slightly decline for the period of 2005 – 2010 and after that it will rapidly increase. In 2020 a peak will be observed. And after 2020 it will gradually decline to the value of 21.1% (United Nation), 24.4 % (UNFPA), 23.4 % (Stat.Kz) (Figure 11).

Figure 11: Forecast of Proportion of population aged 0–14 in Kazakhstan, in period 2005– 2030

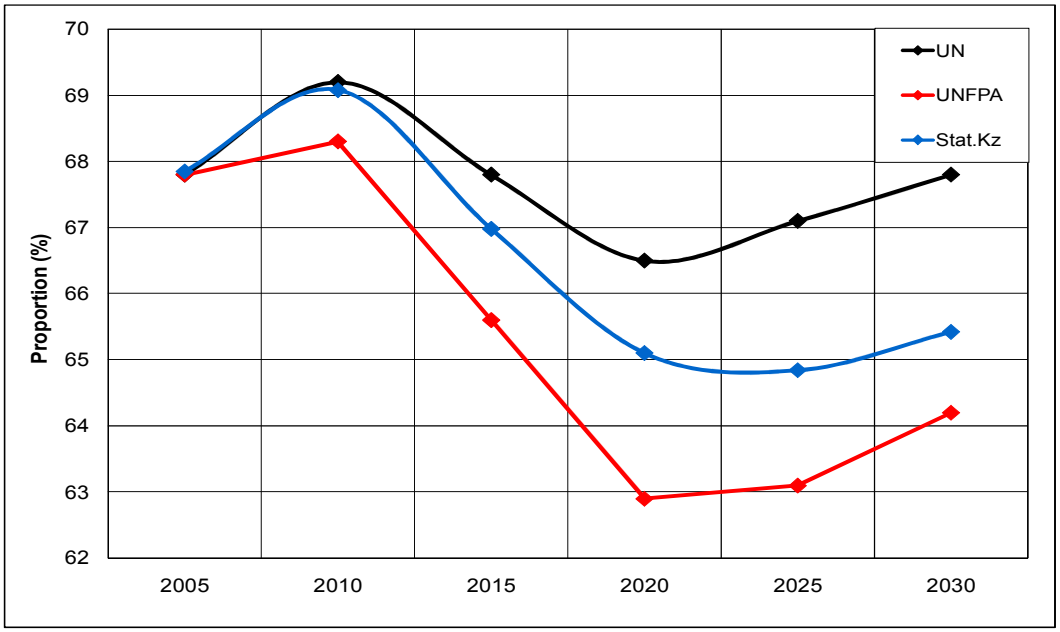


Source: Agency of Statistics of the Republic of Kazakhstan, United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

Concerning the population age structure, UNFPA forecasts higher fertility level and so larger proportion of children and the smallest proportion of the working age of population. United Nations and Statistics Agency of Kazakhstan show lower total fertility rate, proportion of children and respectively larger share of the working age population than UNFPA's forecasts. But, it is clear that all three forecasts predict increasing of the share in proportion of old age population (Figure 12).

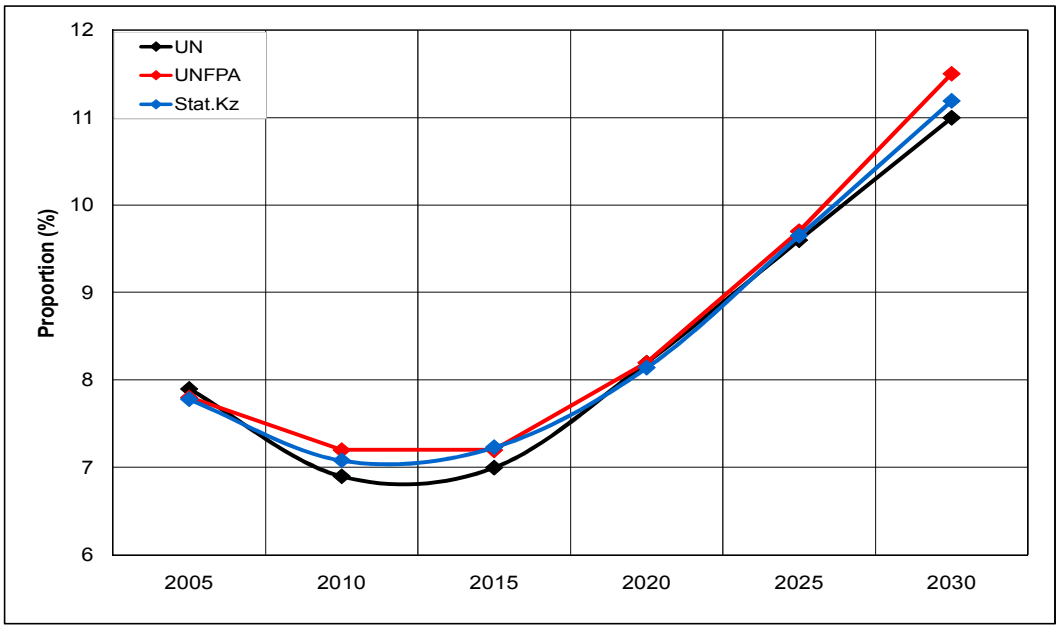
Elderly population, by all three forecasts has the same tendency in population change. And it will rapidly increase from 7 percent to more than 11 percent from 2015 till 2030. For the period of 2005–2015, the proportion of old age population will decline but not significantly, by less than 1 percent. And it is approving that in Kazakhstan the demographic Ageing of population will be in a very intensive speed (Figure 13).

Figure 12: Forecast of Proportion of population aged 15–64 in Kazakhstan, in period 2005– 2030



Source: Agency of Statistics of the Republic of Kazakhstan, United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

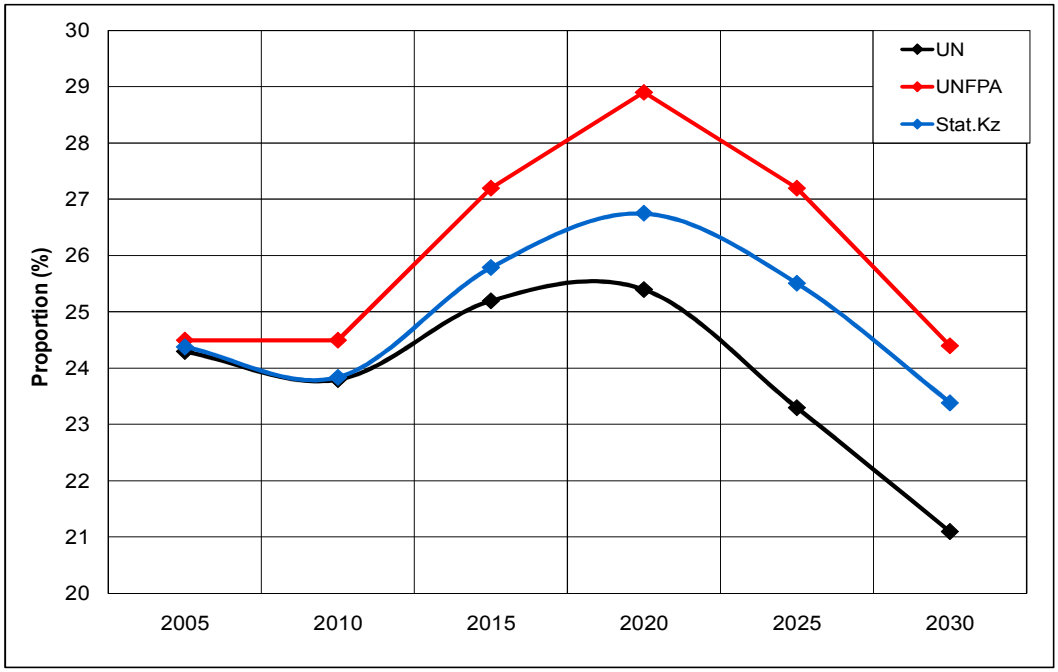
Figure 13: Forecast of Proportion of population aged 65+ in Kazakhstan, in period 2005– 2030



Source: Agency of Statistics of the Republic of Kazakhstan, United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

Regarding the total dependency ratio, it is directly influenced by the population age structure. Based on the forecasts analysis the total dependency ratio will rapidly increase from 2010 and will be in high level in the future (Figure 14).

Figure 14: Forecast of Total dependency ratio, in Kazakhstan, in period 2005–2030



Source: Agency of Statistics of the Republic of Kazakhstan, United Nations Fund for Population Activities in Kazakhstan, World Population Prospects: The 2008 Revision Population Database 2008 (United Nations Population Divisions)

Chapter 6

Economic consequences of Population ageing

Population ageing will affect the size composition of the workforce and have important implications for economic growth and the involvement of older people in society. Countries with low and declining base level of fertility, developed economies and economies in transition, and also a growing number of other countries experience decelerated increases or even reductions in the labor force. The decrease in the number of workers can have a negative effect on the output growth and undermine the welfare of the population. Delayed growth might lead to a difficult task of addressing the needs of more dependent older population. In addition, a "graying" of the labor force is expected since the share of senior workers increases in the economically active population worldwideю This change may affect the way goods and services are produced and the overall efficiency of the economy.

A specific problem for economies with low fertility level is that their labor forces grow older and eventually does not grow in size. This issue presents a lot of questions from the economic policy perspective and this is not only about policies that promote employment, productivity, but also about what can be done to reverse the declining trend in labor participation and adjustments of the retirement age.

Meanwhile, countries where fertility level is still high or above the replacement level (basically in countries in Africa to the south of Sahara and in Southern and Central Asia, but also with some developed economies such as the United States of America and New Zealand) will still use an expansion of labor offers, but will also appropriately deal with consequences which are posed by the elderly. Developing countries face additional problems such as generation of significantly bigger volumes of paid workplaces.

Population ageing affects business activity and job growth through other channels in addition to the labor market. Economic growth is closely connected with consumption,

investment and savings. Consumption samples vary with age. For example, older people tend to spend a higher share of their incomes on housing and social security compared to younger cohorts. Current consumption trends demonstrate that, among other things, the demand for health, long–term care, housing and energy costs are likely to increase as a result of growing population of people aged 65 years or older in developed countries.

Consumption samples as a result of population aging, however, change rather gradually over time. Other factors are even more important (especially income growth) tend to affect more in determining the consumption expenditure level and composition for old and young people. Labor income represents major ingredient in a person's income, but tends to change throughout the life cycle, often reaching a peak when the person is in the work in adult years of his life. If income decreases with age, consumption levels can be reduced during older ages.

Economic growth could then be adversely affected due to the increasing share of older consumers. Ageing affects the size of the labor force and will thus impact economic growth. Ageing also affects consumption patterns. Similarly, the ability to save may decrease with age and thus could affect generation of savings in the economy as more people become older. This may be profitable for the level of global savings and suitability of investment finance, especially due to the weight of countries with aging settlements in the world economy. Again, ageing is only one factor influencing the savings behavior. On the other hand, implications for financial markets may be more visible. Population ageing has an impact on financial markets as it leads to the increasing share of household savings flows into pension funds and other financial investment plans for retirement.

Institutional investors can play an important role in deepening financial markets and to provide additional liquidity for long–term investment projects. At the same time, however, institutional investors largely operate outside financial market regulation and surveillance mechanisms that apply more broadly to the banking system. If unchecked, the financial market operations of pension funds could thus be a source of financial instability and affect the efficiency of monetary policy.[37]

6.1 Employment of elderly population in the world

Some characteristics of employment of the elderly population slightly differ worldwide. Practically, number of elderly workers in all countries constitutes a small part of the population occupied in economy. The second common characteristic is the age of the occupied elderly population is represented by aged people right after a retirement: the “further” they from this age, the lower their relative density in economically active population in countries under

[37] United Nations. Economic consequences of population ageing.
(http://www.un.org/esa/policy/wess/wess2007files/chap4.pdf (29.08.2009))

consideration. The third common feature for all countries is that degree of participation in social production is higher for elderly men than that for elderly women.

Interesting differences in the employment of the elderly population are reflected in research papers devoted to the development level. Thus, the employment rate of older workers varies considerably, being generally lower in developed countries than in developing ones.

Significant differences are revealed in the activity level of the labor force in international comparisons related to public welfare: a country with high GDP are characterized by a significantly lower degree of labor force participation of old people and people just crossing the threshold of old age than countries with low GDP. In most developed countries, old people can expect a dignified existence at the expense of retirement savings and social insurance system, while such systems in 'poor' countries, due to their immaturity, can not afford their populations a dignified old age, and older population is forced to remain in the labor market, earning extra income. In developing countries, the older population – predominantly represented by women – constitutes the bulk of the poor who are not receiving appropriate care and financial support outside the family. These countries have little institutional and economic resources to meet basic needs of old people, and the need to build economic and social policies arises in this context to resolve the aforementioned issue.

Amongst reasons that result significant reduction in the employment of older population in developed countries are improved social security, change of industrial organization and change in the nature of employment. Changes were due to the introduction of new technologies in many industries, which require a specially trained workforce. As a result, older workers prefer to retire than learn new skills. In countries with consistently high unemployment further reason may be formal and informal pressure on older workers.

Employment of the elderly population in Kazakhstan is not as high as in developing countries as but significantly higher than in developed countries. At the same time a common trend to decrease the employment of older people with increasing age remains in Kazakhstan,

6.2. Labor force and employment of elderly population in Kazakhstan

In the context of sustainable development of the economy, the labor market in recent years has experienced an increase in economic activity and increasing employment. The economically active population increased by 629.2 thousand people (8.5 %) for the period from 2002 to 2006 and accounted for more than 8 million people in 2006 employed in various sectors of the economy. Employment rate of the population is kept within 64 % for the population aged 15 years and older.

Restructuring of the economy, development of small and medium entrepreneurship contribute to the increase in the share of employment in private enterprises and private business

sector. In 2006, more than 5.7 million, or 77 % of total employed worked for businesses and individuals with a privately owned, 1.7 million, or 23 % in state organizations and institutions. More than half of the employed is men (3.8 million), and a woman 48.6 % (3.6 million).

The age structure of the employed population creates favorable conditions for increasing economic activity and productive employment. Among the employed population 4.2 million or 56.6 % were aged 15–39 years last year. Thus the number of young people (15–24 years) reached 1.2 million (16.5 % of total employment), those aged 25–34 years – 2.1 million people (28.5 %). The proportion of age groups between 35–44 years and 45–54 years among those employed respectively estimated 24.2 % and 22.5 %, while those aged 55 years and older 8.3 %.

Educational level of the labor workforce is sufficiently high in the republic. Tertiary and secondary vocational (special) education institutions enrolled 3.9 million people, which is 52.3 % of the employed population. Every second from these has higher (tertiary) education. The proportion of people with primary vocational education amounted 12.3%, general secondary 30.1%. Employed women have higher levels of high and secondary vocational education, compared with men.

The sectoral structure of the employed population changes and tends its redistribution among the sectors of the economy. More than 3.7 million people, or half of all workers in 2006, delivered a variety of services to the population. Industrial enterprises in 2006 employed 0.9 million people (12.2 % of all workers), construction sector – 0.5 million people (6.2 %). In agriculture, forestry and fishing during this period were employed 2.3 million people, or 31.5 % of the employed population.

Significant changes have occurred in the size and structure of the employed population by employment status. In recent years there is a trend of stable growth in the number of hired labor force. Number of employees amounted 4.8 million people in 2006. This is 64.5 % of total employment in the economy. In comparison, with 2002 increase is about 746.4 thousand people (18.5 %) in 2005 – by 136.1 thousand people (2.9 %). Form the total number of employees engaged in the majority of public and private organizations81.7 %, and from individuals 11.7 %, in the country (farmer) households 6.6 %.

The majority of the working population is concentrated in large and medium–sized enterprises. Positive implications are in industrial–innovative development of the economy, recovery and accelerated development of manufacturing industries, implementation of active measures for the conservation and expansion of existing production areas of activity and jobs. In 2006, the number of hired workers by these enterprises amounted to 2.7 million people. This is 56.7 % from total. In comparison with 2002, an increase estimated about 368.1 thousand, or 15.7 % from 2005 by 144.9 thousand people and by 5.7 %. The influx of labor occurred in industry, construction, public administration, transport and communications, and the financial sector.

The labor market is experiencing a reduction in the number of self–employed. When compared to 2002, indicator has decreased by 51.8 thousand people (1.9 %). From these employers

109.1 thousand people (4.2 %), members of production cooperatives 30.6 thousand (1.2 %), unpaid workers in family enterprises 84.3 thousand people (3.2 %) were registered. The largest shares in this category of employees (91.4%) are self–employed workers. A considerable part of them carried out independent activities in agriculture, as well as in the retail trade and provided transportation and other public services.

One of the factors affecting the labor market is unemployment. The dynamics is measured by its annual decline level. In 2006, unemployment accounted for 7.8% which is by 1.5 percentage points lower than in 2002. The number of unemployed people amounted 625.4 thousand in 2006 and decreased over the past five years by 65.3 thousand people (9.5%). From the total number of unemployed in urban areas 390.8 thousand people (62.5%) recorded, in rural areas – 234.6 thousand people (37.5%). The unemployment rate among them constituted 8.6% and 6.8%, respectively.

A significant differentiation of the unemployed is by sex and age. Women are still the least competitive in the labor market, the numerical advantage that persists among the unemployed. The proportion of unemployed men was 42 % in 2006, women – 58 %. The number of unemployed women was 362.9 thousand people, which are 100.3 thousand people (by 38 %) more than the number of men. Unemployment rate 9.2%, respectively, and 6.4% (in 2002 was respectively 11.2 % and 7.5 %).

The problem of adaptation of young people in the labor market persists. Despite the decline in the proportion of the total unemployed young people (aged 15–24 years), it is still high. In 2006, the number of unemployed people in this age group amounted 169 thousand, or 27 % of the total number. This 24 thousand people (12.4 %) is less than in 2002. The level of youth unemployment in the past year accounted 12.1 % (in 2002 17.3 %). However, it is by 4.3 percentage points higher than its national average value. Among the unemployed youth women composed a large proportion.

The qualitative composition of the unemployed population is differentiated depending on their level of education. The share of persons with highest degree constituted 18.6 % in 2006 from total number of unemployed persons (116.3 thousand). Majority of the unemployed persons are with secondary general education accounted for 37.5 % (234.4 thousand) and with secondary vocational (special) 25.3 %. Unemployed women have higher educational level than men.

In recent years, long–term unemployment was reducing in the republic. The number of economically inactive population aged 15 and older was 3.5 million in 2006, including men 1.4 million (39%), and women 2.1 million (61 %). The major proportion of the economically inactive population is pensioners 41 % and full–time students 37.9 %. Due to health or disability reasons 7.2 % were inactive, and 5.8 % are employed in housekeeping. The level of economic inactivity (passive) in recent years estimated 30%.[38]

[38] Kunaev, E. O sostoyanii del na rynke truda v Respublike Kazahstan. Agentstvo po statistike Respibliki Kazakhstan. 2007.

Compared to 2007, the level of economical activity of Kazakhstan's population of age 15 and older constituted 70.4 %; it increased from 70 % in 2003. But the economical activity of the population over 65 ages composed 11.6 % in 2003 and decreased to 7.3 % in 2007, including men over 65 age 11.3 % and women 5.1 %.

Elderly women are less engaged in social production than men, while at the same time the rate of employment for men and women decreases as age increases. Despite the fact that the proportion of older women in the economy is lower than that of men, the absolute number of employed men and women in this age group slightly differs. This is due to the fact that in the older age groups, women outnumber men by more than 1.5 times.

The share of rural population aged 65 years and older employed in the economy fell from 2.8 % in 2002 to 2.0 % in 2004, while urban economically active population of that age in 2002 was 2.2%, and decreased in 2004 to 1.1 %. The highest employment in urban elderly population observed in the Karaganda region 20.1 thousand people in 2002, representing 3.6 % of the total regional population, and 12.3 thousand in 2004 (2.2 %) in Kostanai region 11.9 thousand people in 2002 (4.6 %) and 8.5 thousand people in 2004 (3.1 %). However, this decline was most significant in Almaty 10.2 thousand people (2.0 %) in 2002 and 2.1 thousand in 2004 (0.4 %).[39] While total decline in the number of urban employment of older people in all areas of the republic it should be noted that the only area where the employment of this population increased was a North–Kazakhstan region.

Employment of older people in rural areas is higher than in urban areas, due to the seasonal nature of agricultural work, bringing additional income to rural households and providing additional employment for older people. In addition, rural employment opportunities for young people are very limited, and result in their migration to the cities, looking for jobs, thereby reducing the population in rural areas and increasing the proportion of employed older people. Employment in the public sector, which to some extent is offset, by lower pension received by older people in rural areas. A certain difference in the amount of pensions in urban and rural pensioners takes place because the wages of the rural population during the period of disability on average are lower than wages in the cities, based on which pensions are calculated. Lower poverty levels in urban areas compared to rural areas are determined by higher income and education of the urban population. There are more job opportunities for older urban educated retirees that do not require physical exertion, but require a certain amount of knowledge and skills, acquired throughout life.

Growth of the increasing old population can deepen the burden on the state financial system. It is assumed, that at least partially the elderly population brings insignificant contribution in the economic development. However many older persons work, and studying their participation in the public production and specific features of elderly workers can give a

[39] Ekonomicheskaya aktivnost' naseleniya Kazakhstana. Statisticheskii sbornik. Astana 2008.

more accurate picture of their contribution to the economy. The given information is also useful in economic development planning and development of pension provisions.

Level of economic activity of the rural elderly population is higher than that of the city. Obviously, higher occupation level of the elderly population in a countryside results in many respects from a seasonal nature of agricultural works – in villages elderly men and women have more opportunities to be occupied during certain seasons in field works, on personal land plots to earn in the absence of young members of the families who migrated in cities to search for jobs. Studying various aspects of economic maintenance of incomes of advanced age citizens, it is possible to ascertain that possibility to receive an additional income is much higher in big cities, than in countryside or small cities and workers settlements. However both prices on goods and services in these regions are hard to compare.

Economic aspects of employment of the elderly population in social production are the following:

- Getting additional income to pensions from the labor activity, allowing to increase monetary receipts for older persons both in a city, and in a village;
- Feeling of material independence from family members
- Help from relatives and family members (it is especially actual for the older persons living in countryside);
- Transfer of elderly workers on less functional and insignificant positions, taking into account their professional mobility.
- These are the social aspects of the elderly's employment:
- Educational level (especially older persons in urban areas), received during the life and allowing the population of the given category to participate in various spheres of social production;
- A satisfactory health status to participate in activities, which do not demand physical activity;
- Accumulating scientific potential that allow employees, especially those involved in education and scientific research, to be in demand in this field, where the wage is not sufficient to attract the young generation;
- Employment of older people in such spheres as social production and services educational sphere, science, trade, work which does not demand physical activity as stated above.

Employment of the elderly population, being in many cases a compulsory measure for the given category of population, also reflects positive sides of the given phenomenon. As it has been mentioned earlier, it is widespread all over the world, and consequently in some degree is an absolutely normal phenomenon. But here it is necessary to distinguish negative and positive sides of this process.

First, in some countries with high poverty levels and low living standards, the elderly population is compelled to work due to the adverse economic conditions and low degree of responsibility of the state for social and economic maintenance of the given part of citizens. Secondly, employment of older persons is in many respects defined by a current situation on the labor market and with a manpower, which, in turn, is defined by features of demographic development of countries. Shortage of a manpower, in particular people of the working age, promotes involving of the elderly population in production and their extended stay in the labor market, for example as a result of pension age increase. Thirdly, employment of the elderly population can be considered as a positive phenomenon, namely as a reduced burden on the working age population. Defining a poverty threshold, their employment in production gives a chance to them to get additional income to maintain higher living standards, and also psychological satisfaction from comprehension of the labor activity.

Chapter 7
Coverage of pensions and Population ageing

As the population ages, pension coverage becomes of particular importance. Decent old age citizens provision is one of the main tasks of socio-oriented state, which includes Kazakhstan. In the Republic, this task has always been a priority, but in recent years it has become a matter of national importance. The main reason for this attention is the fact that the majority of retirees have only one source of income – a pension. Therefore the pension's purchasing power directly affects the welfare, longevity and quality of life of the retired population.

At a stage of the formation the Republic Kazakhstan used the pension system which has got from Soviet Union based on full solidarity of appointment and payment of pensions. The pension amount was calculated at 50 % of the wage and varied in proportion to the work record and wages for five consecutive years out of the last ten years of work. The age of a retirement was preferential enough in comparison with other countries. So, women had the right to retire achieving the age of 55 and men – 60, and a number of categories (military men, mothers having many children, the persons living in a zone of Semipalatinsk range, the ecological disaster, working on harmful manufactures, in dangerous working conditions, etc.) – even earlier. At the same time crisis of reorganization process, which affected Kazakhstan in the mid-1990's, drove all social provision, including the pension system, to the brink of collapse. It was showed in falling of a standard of life of a major part of the population of Kazakhstan, first of all pensioners and the invalids which sizes of pensions became scanty and did not cover even the minimum needs. This was also the period when the inadequacy of the pension distribution system, based on the "solidarity" of generations in the context of emerging Population ageing became apparent.

In Kazakhstan, pension coverage issues were comprehensively addressed through pension reforms, according to which, starting from 1 January 1998 all those employed and those reaching working age were to be part of a saving rather than solidarity based pension system. Chilean pension system model was used. Kazakhstan has become a leader among CIS countries, first and in a short time running the pension reform and radically changed the system of appointment and payment of pensions.

As a result of these pension reforms, the following three pension systems have been in place in Kazakhstan for nearly 11 years:

- Completely solidarity system – for pensioners, who retired before January, 1st, 1998
- The mixed system – for pensioners by whom pensions have been assigned after the above-stated date and those, who are being assigned now.
- Fully funded system – for those who had no (or had less than semi-annual) the work experience as of January, 1st, 1998.

As the population ages, the first two systems will fade away, completely replaced by the fully funded system.

New measures in reforming of pension systems influenced citizens already retired in period when they were accepted, for whom it was mainly beneficial, the reason is outstanding pension accounts were closed in early 1998 using a loan provided by the World Bank. Additionally, a new law "On Pension Coverage in Kazakhstan" provided anticipatory readjustment of registered pensions to take place on an annual basis of compensation the inflation. According to the law solidarity pensions are adjusted and the minimum pension amount increased. At the same time there were also negative decisions for retirees during reform. For example, pensions began to pay for previous month instead of flowing as was under the old Law. After the made recalculations within 90's and in the first years of reform actual adjustment of pensions of retirees, which is irrespective of the experience of work, position or profession, the size of the earnings given for calculation of pension has turned out, pension received size became almost identical.

Low pensions led to the "Program to Combat Poverty and Unemployment for 2000-2002". Senior citizens were the first and most vulnerable group. In 2003 in order to assess more fairly how retirees contribute to the economy and to differentiate and increase pensions, a special measures were used to re-calculate pensions, depending on the sector of the economy pensioners had work in and the ratio of their wages to the average wage paid in that sector. This ensured an over 40 % increase in average pensions, which rose from 5,817 to 8,197 tenge at 2003.

According to the Message of the President of Kazakhstan Republic to the people of Kazakhstan "Kazakhstan on a way of the fast economic, social and political modernization" since July, 1st, 2005 the additional (base) pension to all retirees amounting 3.000 tenge has been

entered. Recalculation has allowed establishing the minimum pension at level 9700 tenge, and average pension, at level 12100 tenge per a month.

As a result of the work on recalculations and indexation of pensions almost all retirees of the country left the category of the poor population as their incomes have exceeded not only a poverty line, but also the subsistence minimum two-fold. Among the poor population who receive targeted state assistance, there were only the pensioners having dependents – unemployment children or grandchildren. In this group is mostly represents of rural population. At the beginning of 2005 were 1.7 million recipients of pensions in Kazakhstan, of which 97.7 % were old age pension recipients, only 1.9 % had incomplete work records, while the remainder had adequate work records.

Box 1

Non-government organization "Moldyr" and Department of Employment and Social Programme of Almaty undertook a poll to collect information how to improve the status of older people. Most responding retirees noted that not only was it important for older people to secure state support but also to get involved in social life and use their life experience in raising the young generation. Some older people reported improvements in their living standards and saw financial security or good pensions as an important strategy to solve their problems. Poll results indicate three main issues for pensioners: poor health, low income and loneliness.

Analysis of recipients of pensions across regions in 2005 shows the presence of regional differences. The higher average size of pensions in nominal terms stated in the cities of Almaty (10,067 tenge) and Astana (9,618 tenge), as well as in Mangystau region – 9,182 tenge. There is also a higher level of average wages of working people. The lowest rates of pensions are in South Kazakhstan (7,549 tenge) and Zhambyl (7,869 tenge) regions. The real pension indices based on pension purchasing power were also highest in Almaty (100.7 %), Astana (100.5 %) and Atyrau (99.5 %).

In compensation of the high costs of goods and services the Almaty city Akim agreed an allowance to be paid out of the city budget to all retirees not receiving special state benefits, effective as of 2000 in Almaty city. This allowance amounts to 55% of the calculation index and is considered an addition, for which war veterans also became eligible as of 2005. Nevertheless, and despite these re-calculations and increases, average pensions still do not exceed 35% of average wages. However, International Labor Organization Convention 105 fixes the income replacement value of pensions between 40-45 % and 75 % of the average wage.

The fully funded pension systems, replacing the solidarity based system, must become a pension source for insurance holders to be paid from contributions accrued on personal accounts and dividends gained by investing pension funds in assets through management companies. Unlike solidarity and distribution based systems which are sensitive to demographic changes and wages on the labor market, the effectiveness of the fully funded system depends on capital

markets, and in particular interest rates and inflation estimations, as well as effective financial institutions.

The main elements of the pension reforms were as follows:

- Retirement age raised;
- Requirements for pension assignment made stricter;
- More extensive work record required for solidarity pension system entitlement;
- Terms for bonus pension coverage reduced;
- Mandatory insurance contributions fixed at 10% of wages;
- State Savings Pension Fund created;
- Private pension funds stimulated;
- Benefits such as disability benefits, survival benefits, etc. qualified as benefits to be paid out of the pension system.

Many of these measures were not popular among the people, especially the abolition of benefits for early retirement of significant number of workers and the general increase in the retirement age. At the same time, increasing the retirement age by three years for men and women, was resulting that age of women is 58 years old, male – 63 years. These measures were made effective as of 1 January 1998 and progressively throughout the following 3 years, becoming fully effective as of 1 July 2001. At the same time, economic development, reduced unemployment and more new jobs contributed to changing attitudes among the working age population towards of the raising retirement age. Trends observed in the employment arena indicate a growing number of working retirees. The current unemployment rate for people aged 60-64 stands at 4.7 %, compared with the national unemployment rate of 8.9 %. Employers now have a new problem related to the dismissal of workers of retirement age, since the Law "On Labor in Kazakhstan" does not provide for administration – initiated dismissal of workers upon reaching the retirement age. In 2004, overall life expectancy stood at 66.3 years, 2.7 years more than in 1995, and this upward trend is predicted to continue for the next 15 years. Therefore, the number of working retirees is likely to continue growing.

Increased life expectancy, a growing number of working retirees and a low pension to wage ratio form the background for a further rise in the retirement age. This is likely to affect women in particular, who currently retire 5 years earlier than men, while they have lower wages than men. In 2004 men's and women's wages averaged 34,670 and 21,395 tenge respectively, with a female to male wage ratio of 1.69. Meanwhile, many women take unpaid childcare leave of up to 3 years, according to the Law "On Labor in Kazakhstan". Moreover, current and predicted female life expectancy still is significantly greater than for men. The female to male life expectancy ratio appears to be falling, but very slowly. Therefore, women are likely to have much lower pension savings compared to men and will, consequently, have lower pensions to be paid from the fully funded pension system, which will completely replace the solidarity

based system by the end 2030, as estimated by the Ministry of Labor and Social Protection. A simple calculation shows that with a wage of 300 dollars per month and 25 years of employment, a woman will receive a monthly pension amount no more than 35 dollars for a period of 19 years. In contrast, with a wage of 350 dollars earned for 35 years a man will have a pension of at least 45 dollars for the same period after the retirement.

Pension savings are also problematic for other groups, including:

- Self-employed people such as shop workers, drivers using their own vehicles, freelance consultants, etc. Many of these do not have any legal labor relations with their employers;
- Farmers and family members employed only on their farms;
- People with no formal income, such as the unemployed, housewives, mothers of large families, non-governmental volunteers, etc;
- Students studying for a long period of time and not working;
- Workers, whose employers fail to pay pension contributions either in full or regularly;
- People whose pension contributions were inaccurately calculated.

Unfortunately, there are no official statistics on the proportion or number of people not participating in fully funded pension systems. In this context, future pensions to be paid to these groups will be a real burden for taxpayers, who will have to pay social taxes to provide for targeted benefits and other social additional benefits. The government will pay such benefits in the long term as the population not participating in the fully funded pension system gets older.

Nearly all of the above-listed groups do not make contributions to savings funds. Most of them just evade such payments, although they have individual social codes and are aware of the mandatory nature of pension contributions. They will eventually get out of the fully funded pension system and will only receive basic pensions when they retire, as specified in the pension law. In addition to basic pensions, people with employment records registered before 1 January 1998 will get pensions from the solidarity based system, proportionate to their employment record.

Sustainable and profitable pension savings funds are an important factor in ensuring effective pension security. As the population ages, more people will be entitled to both pension systems, while their welfare will depend on the effectiveness of pension funds and pension savings investments. As of 1 March 2007, there was 1 state and 14 private pension savings funds, with 77 branches and 79 representative offices operating in Kazakhstan. People are free to choose to deposit their pension savings in any one of these. There are 7.4 million mandatory pension depositors, which is 97 % of the employed population. However, less than a half of them make pension contributions on a regular basis. At the same time, 30.9 thousand people are

voluntary contributors and around 3.5 thousand depositors are voluntary professional pension contributors.[40]

As well as being reliable, pension funds should also be profitable, which depends on a number of factors, including fund management effectiveness. It is most important for pension savings funds to invest pension assets effectively. There must be reliable pension asset use tools, since future dividends will be built on both the amount of contributions and the economic situation, effectiveness of pension funds and companies managing pension assets. The mechanism of pension contributions must be further developed. Moreover, current customers of pension funds are mainly population in working age. At the same time, as the solidarity system is replaced by the fully funded system and the population gets older and life expectancy grows, this situation will change and may affect returns on pension funds. Nowadays, the government amends the pension law on a regular basis and the above indicated limits may be revised in the future. Because of the not enough official statistics makes it difficult to evaluate average, highest and lowest pension savings. At the same time, it is known that there are significant disparities in pension amounts accumulated by different system participants of the same age. Such amounts are built on nominal wages, regularity of contribution and effectiveness of the pension fund chosen. As the population ages, such disparities are likely to grow.

When retirees can apply for a solidarity system pension based on their employment record and withdraws the accrued pension savings. During the initial period of the fully funded pension system, the accrued savings were paid all at once, since amounts were small. This strengthened public confidence in the new pension system. Now, retirees entitled to pensions receive pre-taxed 100 thousand or after-tax 97 thousand tenge annually for as many years as savings allow. In this situation, retirees with pension savings are in a better position than retirees with an earlier assigned pension because 8 thousand tenge resulting from 97 thousand tenge divided by 12 months is a good pension supplement. With an estimated pension of 12.1 thousand tenge, aggregate pensions can be as high as 20 thousand tenge per month, which is over 3.5 times more than the subsistence minimum. Participants of the fully funded pension system have more chance of receiving pension supplements, since the supplement period and amounts grow as wages increase. Therefore, pension supplements will be bigger than assigned pensions. It is expected that in future the supplement payment will be paid on a monthly rather than one-off basis, based on the estimated survival rate. A lot of things are being done in this area and the situation may well change in future.

It is necessary to notice that people reaching retirement age now and in the near future without any pension savings are and will remain more disadvantaged than those, who have the pension savings. Even those among them with not large pension savings, for example, 200 thousand

[40] Richard P. Hinz, Asta Zviniene and Anna-Marie Vilamovska. The New Pensions in Kazakhstan: Challenges in Making the Transition. Sp. discussion paper No. 0537. Social Protection,The World Bank. 2005.

tenge, which is amount two annual tranches, will be affected by the lack of pension benefits as early as two years after retirement. In the future, as the population gets older and workers with increasingly insignificant employment records registered during the solidarity system retire, disparities in pensions will grow. In this case, there will be greater disparities in the pensions paid out of the fully funded system with fairly level pensions paid out of the solidarity based system.

Box 2

'Kazakhstan is a beacon for other CIS states, since it pioneered the pension reform and, accordingly, can be a model of a smooth shift from solidarity to a fully funded pension system. At the same time, pension funds should be looked at in the long run, since current contributors with a median age of 45 will retire in about 15 years. It is only then that we will be able to assess the success of Kazakhstan's fully funded pension system'.

Chris de Coning, regional director, ABN AMRO Asset Management for Central

Last time employers have started to make pension contributions for their employees. This trend will develop further as the economy and social partnerships develop and attitudes towards the professional capacity of each employee evolve. Professional pension systems established within individual entities or sectors, as well as personal pension savings deposited in pension funds and insurance companies constitute the so-called non-state pensions sector.

Nowadays many large entities provide for one-time benefits to be paid to employees who are retiring. For example, the collective agreements of JSC "Kazaktelecom" provide for a one-time benefit equivalent to three average monthly wages on retirement of the employee. JSC Kazakhstan "Temir Zholy" has decided to allow engine drivers and assistant engine drivers to retire at age 59 with pensions to be provided by the JSC. Some other organizations such as JSC "Bakus" provide quarterly benefits amount 3.500 tenge and food packages to be given to retiring employees.

Thus, meeting the needs of future retirees is challenging both at the level of individual pension savings companies and the state pension system as a whole. The majority of people consider pension deductions as some form of extra tax. Because of this, people with no formal labor ties are not eager to become "engaged" in pension systems. On the other hand, effective management of pension savings and the stability of the pension system will affect the majority of population in working age and all citizens eventually. This may be additional challenges as the population ages.

Population ageing necessitates better solidarity and fully funded pension systems. Pensions paid out of the solidarity based system should be raised in proportion to increasing consumer prices. For protecting pension savings, pension asset investment tools should be used more widely and the financial sustainability and reliability of entities constituting the fully funded pension system ensured. It is necessary to develop the pension annuity market to encourage married couples to purchase annuities, which will entail monthly payments amount at

least the minimum pension to be paid from the fully funded pension system. Nowadays, the government is considering increasing the tax-free pension to a minimum pension and providing state funding of mandatory pension contributions for female workers on maternity or under-three childcare leave.

Regarding voluntary fully funded pensions, voluntary and professional pension systems should be encouraged and voluntary professional pension contributions made to workers, including those of government-funded organizations, whose professions are on the Register of Professions. It is expected that the government will remain the principal source of funding for social security systems and ensuring timely and adequate social benefits. This will change gradually as the government withdraws and mechanisms of social insurance are made more effective. Meanwhile, growing differentiation of pensions and the need for preventative measures to ensure social stability must be emphasized.

Chapter 8

Healthy Ageing: Public health services and social protection

The age and sex structure of Kazakhstan population has undergone considerable changes resulting from peculiarities of reproduction and migration processes during the transition period. Analysis of new trends in the Kazakhstan population age structure show that the Republic is already at the threshold of population ageing. Considering these processes, a number of factors linked with health issues, organization of healthcare system and social protection for older people in Kazakhstan become of special interest.

Ageing brings to the new issues of old age provision as people become more economically, socially and psychologically vulnerable and have significantly weakened internal and external protection against risks. One of the basic risk factors affecting ageing negatively is the lack of legal and social protection of older people and a deteriorating quality of life. Among the most important indications of older people's quality of life is their physical health, as measured by morbidity, longevity and mortality level.[41]

8.1 Integration of medical and social systems

The legislative framework for medical and social services toward elderly population consists of Laws About a provision of pensions in Republic Kazakhstan of 20 June 1997, On State Social

[41] Shabalin, V.N. Social'nye osnovy obespecheniya effektivnosti upravleniya ohranoi zdorov'ya pozhilogo naseleniya Rossii; Igisinova K. Problemy obespecheniya zdorovogo stareniya v pozhilom vozraste//Materialy IV ezhegodnoi Mezhdunarodnoi nauchno-prakticheskoi konferencii "Sovremennye aspekty obshestvennogozdorov'ya i zdravoohraneniya". Almaty. 28–29 sentyabrya 2005. p.44–46.

Disability Benefits for the loss of bread-winner and for age standards of 16 June 1997, About a special welfare payment in Republic Kazakhstan of 5 April 1999. On Amendments to several legal acts of the Republic of Kazakhstan on social assistance to Second World War veterans, disabled people, benefit recipients for the loss of bread-winner, of 31 December 2004.

The transition to a market economy has entered changes in the system of social protection and determined a shift from the unitary system of social protection to a mixed one. The Concept of social security system of the Republic of Kazakhstan approved by the government on 27 June 2001 offers a model system of social protection, including elements of both solidarity and targeted systems of mandatory and voluntary insurance.

On 28 April 2003 the Law on Mandatory Social Insurance was adopted. Its article 21, p.5 states that "as soon as an individual reaches the age that entitles him to pension benefits, social compensations for loss of capability discontinue". The law has been in force since 1 January 2005.

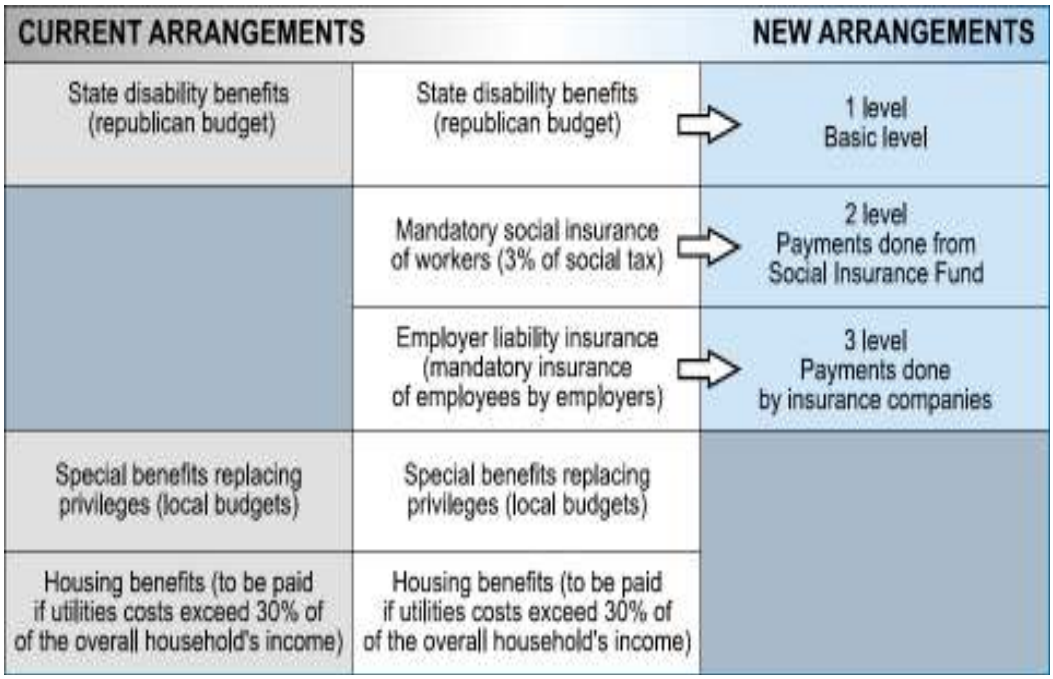
The Law on Mandatory Insurance of Civil Liability of Employer against Disablement of Employee While on Duty was adopted on 7 February 2005 and became effective on 1 July 2005. Figure 15 demonstrates some consequences of these laws after they were adopted in the course of reforms of the social protection system in Kazakhstan.

First level is allocation of benefits from the budget for all citizens depending on social risks. Second level is provision of all formal sector employees with additional benefits from a mandatory civil liability system until retirement age or discontinuance of basis for insurance payments. Third level is in case of disablement or loss of breadwinner caused by occupational disease, additional social aid is provided until the end of the basis for insurance payments.

The legislative framework for the existing medical and social protection systems is made up of laws On Public Health Protection in Kazakhstan of 19 May 1997, On Public Healthcare System of 4 June 2003, On Social Protection of Disabled People for 2002-2005, State Program of Healthcare Reform and Development in the Republic of Kazakhstan of 13 September 2004.

Kazakhstan legislation determines integrated medical and social protection as one of the types of pubic medical services (p.1 article 15 of the law on Public Health Protection in Kazakhstan of 19 May 1997). According to page 5 article 15 of the law, medical and social protection embraces a set of steps on the creation and development of a network of small-scale social organizations, benefit provision, providing employers with medical recommendations regarding their staff and organization of a rational regime of labor and nutrition. Medical help for people, who suffer from socially significant diseases and diseases dangerous for society are provided for free or with reduced price by medical and social assistance. Socially significant diseases include illnesses common for the elderly such as cancers, mental disorders, diabetes, cardiac arrest, the post-surgery state of vital organs, tuberculosis, etc.

Figure 15: Integration of medical and social systems



Source: Human Development Report Kazakhstan - 2005. The great generation of Kazakhstan: insight into the future. United Nations Development Program, United Nations Population Fund. Almaty.2005.

One of the important sphere of medical and social assistance and the rehabilitation of older and disabled people is orthopedic help. Nowadays orthopedic help is provided according to the "Regulations of provision of orthopedic and technical compensatory aid for disabled people" approved by government decree of 20 July 2005. All disabled people, including the elderly must be provided with prosthetic and orthopedic devices for free or with reduced prices. There are three main orthopedic centers in Kazakhstan, one of them in Almaty, others in Petropavlovsk and in Semipalatinsk. They financed from the national budget. About 40 thousands people are registered in these orthopedic centers, as people requiring prosthetic and orthopedic devices. Over 19 thousands disabled people received orthopedic aid in 2004, versus over 17 thousands, including older people, in 2003.

Provision of audio and optical devices for people with hearing and vision disorders is on of the medical–social assistance. There are 97 thousands people suffering from hearing disorders who need audio devices and audio aid. There are a further 19 thousands people with visual disorders who need optical devices.

The component of the medical-social help and rehabilitation of the elderly population and invalids is a sanatorium treatment. Amount about 51.7 million tenge in 2003, 70.9 million in 2004, increasing to 125.7 million in 2005 was provided from the state budget for sanatorium-and spa

treatment for veterans and disabled people. In 2003 2.400 and in 2004 2,900 veterans and disabled people enjoyed sanatorium-and-spa treatment. The republican boarding house for war and labor veterans "Ardager", under the Ministry of Labor and Social Protection, is situated in Almaty.

There are 97 residential internats serving as medical and social institutions in Kazakhstan, 39 of them nursing houses for the elderly and disabled, housing more than 19.000 people on full state provision. There are also various private boarding houses. According to a decision of the akim of Almaty City of 1 April 2002 a social boarding house for single retirees, disabled people, and lonely older couples was opened in Almaty. [42]

One important type of social service is home care, which is provided by 339 social service departments and 9 Regional Centers, taking care of more than 37.000 single older people. USAID (through the American International Health Alliance, AIHA) is currently implementing a community-based primary healthcare project in sites across Kazakhstan. Within the framework of this project the Family Group Practice "Demeu" was set up in Astana in 2000. "Demeu" is the first center in CIS to integrate medical and social assistance, including assistance to vulnerable population groups and the elderly. One of the performance indicators of this project is a 37 % reduction in emergency calls over a period of three years. Improving the quality of medical services to result in corresponding improvements in health indicators for the target population groups, necessitate the dissemination of this model in the primary medical care sector across the country. Since 2004, a similar project is being implemented in the cities of Semipalatinsk and Uralsk.

The Ministry of Labor and Social Protection of Kazakhstan drafted a "Program of Rehabilitation for Disabled Persons for 2006-2008" which provides for the reorganization of the social services network for older persons and persons with disabilities, including their structural and organizational transformation, development of state standards for social services, establishment of a network of boarding houses, construction and / or reconstruction of houses and schools in the cities of Almaty and Astana, construction of a hospice in Kostanay area, and other activities.

Social and Environmental Protection of the Republic is regulated by the RK Law "On social protection of victims of environmental disasters in the Aral Sea region" dated 30 June, 1992, "On social protection of citizens affected by nuclear tests at the Semipalatinsk nuclear test site" dated 18 December 1992.

In many regions non-governmental organisations successfully operate in collaboration with medical workers render the medical and social help of the given category of the population work. In Kazakhstan public associations of invalids (the Kazakh Society of Deaf People, the

[42] Igisinova K. Problemy obespecheniya zdorovogo stareniya v pozhilom vozraste/Materialy IV ezhegodnoi Mezhdunarodnoi nauchno-prakticheskoi konferencii "Sovremennye aspekty obshestvennogo zdorov'ya i zdravoohraneniya". Almaty. 28–29 sentyabrya 2005.p.44–46.

Kazakh Society of Blind People, the Society of Disabled Veterans of Afghanistan, Volunteer Society of RK Invalids, Association of Women-invalids "Chirac", Public Association of the Invalids with higher education "Namys", the Asian Society for Invalids Rights Protection "Jan", etc.) actively operate.

A public fund "Employment assistance and social protection of the poor" was created. One of its main projects is called "Zabota" aiming to support retired and disabled people in need and other vulnerable population groups.

At the same time many acts in the field of rendering of the medical-social help have declarative character and have no sufficient financial maintenance.

In conclusion, two agencies are the main actors in providing medical and social help for disabled and older people. These are the Ministry of Health and the Ministry of Labor and Social Protection, which integrate medical and social care for older and disabled people. Among other actors are non-governmental organizations and voluntary organizations.

The problem of the Population ageing, including all aspects of activities of the state and the society at of economy and society organization reformation stage, poses issues of ensuring sustainable social development and collective lifelong safety of citizens of the republic for Kazakhstan Lack of gerontological services, high disease rates, physical inability, and high death rates for the elderly population in the country appear to be restrictions of social guarantees related to the advanced age (at definition of physical inability, degree of loss of the general work capacity) confirm timeliness of research and analysis aimed at the solution of Ageing-related problems in Kazakhstan, one of which is the implementation of healthy Ageing strategy.

Chapter 9

Conclusion

Ageing results from demographic indicators changing over extended periods of time, changed reproduction and migration patterns. This process differs between countries, in most of which it is a result of decreased mortality level and increased life expectancy. What distinguishes Population ageing in Kazakhstan is that it results from the two following factors: decrease in fertility level and high death rates, especially among men of the working age. Disparities in male and female life expectancies are still significant: male and female populations continue to be out of balance, particularly in the older age groups.

Population ageing is a relatively new phenomenon for Kazakhstan and, therefore, has not been assessed or adequately addressed in national policy documents and legislation. At the same time, the proportionately larger older population is beginning to affect the social and economic situation in Kazakhstan.

Population ageing poses new challenges and, at the same time, opens new windows to improve the lives of some people and establish a new socio-economic and cultural environment. Policies promoting investments in social relations, human resources and the economy in general can prevent unnecessary dependency at later stages of human life or as a result of population ageing. Provided effective investment is made in advance, ageing can be changed from a factor depleting resources to a factor building human, social, economic and environmental capacity.

Kazakhstan is at an early stage of becoming a country with a predominant proportion of older people. A holistic approach should be taken to address the challenges posed by population ageing. This, however, will not be possible without developing a universal concept of national policies related to older persons. Such policies should combine political, legal, economic, healthcare, social, research, cultural and informational activities aiming to improve the living

standards and quality of life of older people, building on social solidarity and developing new attitudes towards ageing as part of the life cycle. It is noteworthy that in addition to the Government itself, NGOs, research institutions, professional organizations, mass media and businesses can and should be involved in enhancing the role of older people.

In this master thesis an analysis of population forecasts for Kazakhstan is also given, in which population ageing effect has accelerated dramatically. Expected rapid population ageing after 2015 and a rise in the age dependency ratio after 2010 necessitate a continued policy of state support to maternal and child health initiatives and a social security system guaranteeing decent maintenance in old age.

Growth of the elderly population may deepen burden on the financial system of the country. This may be explained in part by the assumption that the elderly make minor contributions to economic development. However, many elderly do work and it is worth studying their participation in public production and specifics socio–economic patterns of the elderly, as this may give a clearer picture of their contributions to the economy. This information may be useful for planning economic development and development of pension provisions. Globally, proportions of older workers tend to decrease in the older age groups. In Kazakhstan this is more evident among women.

Involvement of the elderly (in most cases the elderly were forced to find a job) reflects positive sides of this phenomenon. As mentioned earlier, this phenomenon is widespread worldwide and therefore to some extent should be deemed a usual phenomenon. However it is worth mentioning its negative and positive effects. Firstly, in some countries with high poverty rates and low incomes, the elderly are forced to find work due to adverse economic conditions and weak government policies in social and economic provision for those in old age. Secondly, employment of the elderly depends on the situation on the labor market and labor resources, which are in turn defined by the demographic development of the country. A shortage of labor resources, particularly of the able–bodied population, promotes involvement of the elderly in production and an extended presence on the labor market, for example by increasing the retirement age. Thirdly, employment of the elderly may be seen as a positive phenomenon, leading to lesser burden on the able–bodied population. Also, with high economic development rates and efficient policy against poverty, retirees may have incomes higher than the poverty threshold and their involvement in production provides opportunities to gain extra income to ensure more favorable living conditions and psychological satisfaction from awareness of their working activity.

Population ageing necessitates better solidarity and savings–based pension schemes. Pensions paid out of the solidarity–based scheme should be raised in proportion to increasing consumer prices. In order to protect pension savings, pension asset investment tools should be used more widely and the financial sustainability and reliability of entities constituting the savings based pension scheme must be ensured. The pension annuity market should be

developed to encourage married couples to purchase annuities, which will entail monthly payments worth at least the minimum pension to be paid from the savings-based pension scheme.

Currently, the government is considering increasing the tax-free pension to a minimum pension and providing state funding of mandatory pension contributions for female workers on maternity or under-three childcare leave. Regarding voluntary savings-based pensions, voluntary and professional pension schemes should be encouraged and voluntary professional pension contributions made to workers, including those of government-funded organizations, whose professions are on the Register of Professions.

It is expected that the government will remain the principal source of funding for social security schemes and ensuring timely and adequate social benefits. This will change gradually as the government withdraws and mechanisms of social insurance are made more effective. Meanwhile, growing differentiation of pensions and the need for preventative measures to ensure social stability should be emphasized.

Analysis of the above data indicates profound problems in the health status of Kazakhstan's older population. Circulatory diseases, musculoskeletal system disorders, digestive disorders, respiratory system diseases, eye and eye appendage diseases top the breakdown of chronic pathologies. High morbidity rates among the population aged 60+ determine their need to access outpatient facilities twice as often as the general population. Regardless of the annual growth of the morbidity ratio, hospital services for those aged over 60 remain unchanged and do not meet older people's need for medical care.

There are no specific gerontology services provided in Kazakhstan and no training is available for gerontologists. Also, there is no official statistics on morbidity rates among older people and their access to medical facilities. Older disabled people comprise the majority of disabled people and are the most vulnerable people by all social indicators, including basic human development indicators.

The problem of ageing, affecting all forms of state and society performance at this stage of economic and social reform, presents a number of serious challenges for Kazakhstan as it seeks to achieve sustainable human development for all citizens. The lack of gerontology services, high morbidity and mortality rates among the elderly, legal restrictions on social guarantees in old age – such as difficulties identifying categories of disability or the extent of overall incapacity – prove the timeliness of raising the issue of ageing in Kazakhstan and the search for better solutions, one of which is the strategy of healthy ageing.

References

ALZHANOVA, A. 2000. Pronatalistskaya politika razvityh stran.*Narodonaselenie Kazahstana. Sb. materialov respublikanskoi nauchno–prakticheskoi konferencii.* Astana. 2000. s.60-62.

BAHMETOVA, G. SH., IVANKOVA, L. V. 2004. Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004.

BALDACCI, E., LUGARESI, S. 1997. Social expenditure and demographic evolution: a dynamic approach. Genus. 1997. № 1-2. p. 61-78.

BONDARENKO, I. N., LAZAREVA, V. S. 1999. Principy OON i perspektivy organizacii social'noi zashity pozhilyh grazhdan Rossii Uspehi gerontologii. Tom. 3. 1999. s.13-21.

BOS D., CNOSSEN, S. 1992. Fiscal Implications of an Aging population. Berlin: Springer Verlag, 1992.

CASELLI, G., VALLIN, J. 2001. Demographic Trends: Beyond the Limits? Population: An English Selection. 2001. Vol. 13. №1. p. 40-74.

Demographic Yearbook of Kazakhstan 2004. 2005. Agency of Statistics of Republic of Kazakhstan. Almaty. 2005.

EGGERIKS T., TABYUTAN D. 2004. Starenie naseleniya v mire: istoriya, mehanizm, tendencii. V kn.: Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004. s. 9-33.

Ekonomicheskaya aktivnost' naseleniya Kazakhstana. Statisticheskii sbornik. Astana 2008

Evromonitor International from National Statistics. Future demographic–Kazakhstan.

GOLINI, A. 1999. Population aging in developed countries: Lesson learnt and to be learnt. *Population aging /*Cliquet R., Nizamuddin M. (Eds). New York: United Nations, 1999. p. 49-84.

GREENBLAT, J-A.Immigracionnye scenarii dlya stareyushei Evropy. *Russkii arhipelag.* (http://www.archipelag.ru/agenda/povestka/povestka-immigration/europa-dis/staraya_europa/ (17.03.2008)).

HOLTZ-EAKIN, D., SMEEDING, N. Income, wealth, and intergenerational economic relations of the aged. Demography of Aging. Washington D.C.: National Academy Press, 1994. p. 102-145.

Human Development Report Kazakhstan. 2005. The great generation of Kazakhstan: insight into the future. United Nations Development Program, United Nations Population Fund. Almaty. 2005.

IGISINOVA, K. 2005. Problemy obespecheniya zdorovogo stareniya v pozhilom vozraste. Materialy IV ezhegodnoi Mezhdunarodnoi nauchno-prakticheskoi konferencii "Sovremennye aspekty obshestvennogo zdorov'ya i zdravoohraneniya". Almaty. 28–29 sentyabrya 2005. p.44–46.

KARYUHIN, E.V. 2002. Gerontologicheskie nko: ot modelei uhoda k stanovleniyu sektora. Moskva. 2002 (www.dobroedelo.ru/vrc/book_publish/doc/glava1_1.doc (13.08.2009)).

KUNAEV, E. 2007. O sostoyanii del na rynke truda v Respublike Kazahstan. Agentstvo po statistike Respibliki Kazakhstan. 2007.

LEE R. 1994.The Formal Demography of Population Aging, Transfers, and the economic Life Cycle. The Demography of Aging. Washington D.C.: National Academy Press, 1994.

LORIO, M. Vzaimootnosheniya pokolenii v stareyushem obshestve. V kn.: Sovremennye problemy stareniya naseleniya v mire: tendencii, perspektivy, vzaimootnosheniya mezhdu pokoleniyami. Moskva: MAKS Press, 2004. s. 34-47.

Ministerstvo ekonomiki i byudzhetnogo planirovaniya Respubliki Kazahstan. Otchet kazahstanskogo instituta social'no-ekonomicheskoi informacii i prognozirovaniya po dogovoru o gosudarstvennyh zakupkah uslug po issledovaniyam v sfere nacional'noi i ekonomicheskoi bezopasnosti na 2006 god №55 ot 01 noyabrya 2006.

NAZARBAYEV, N. A. 1997. Kazakhstan 2030: prosperity, security and welfare for all people of Kazakhstan. Almaty. 1997.

Naselenie mira (www.novsu.ru/file/20873 (27.07.09)).

NIZAMIDDIN, M. 2006. Population ageing: policy responses to Population ageing in Asia and the Pacific. (http://www.unescap.org/esid/psis/population/popseries/apss158/part1_4.pdf (13.07.09)).

OSKOLKOVA, O. 1999. Starenie naseleniya v stranah ES. *Mirovaya ekonomika i mezhdunarodnye otnosheniy.,* 1999, № 10. p.74-83.

PIROZHKOV, S. I. Demograficheskie processy i vozrastnaya struktura naseleniya. Moskva: Statistika, 1976.

PIROZHKOV, S. I., SAFAROVA G. L. 1993. Zakonomernoe i "sluchainoe" v dinamike vozrastnoi struktury naseleniya. Demograficheskie issledovaniya. Vyp. 16. 1993. s.72-92.

PIROZHKOV, S. I., SAFAROVA G. L. 1998. Starenie naseleniya: demograficheskie aspekty. Uspehi gerontologii. Vyp. 2. 1998. s. 24-32.

Poslanie General'nogo sekretarya OON Kofi Annana po sluchayu Mezhdunarodnogo dnya pozhilyh lyudei (http://www.un.org/russian/events/olderpersons/idop03.htm (29.08.2009)).

RICHARD, P. HINZ, ASTA ZVINIENE AND ANNA-MARIE VILAMOVSKA. 2005. The New Pensions in Kazakhstan: Challenges in Making the Transition. Spdiscussion paper No. 0537. Social Protection. The World Bank. 2005.

SAFAROVA, G. L. 2003. Demograficheskie aspekty stareniya naseleniya Sankt-Peterburga. Peterburgskie fragmenty nauchnoi kartiny mira. Vyp. 2 (Sankt-Peterburgskii nauchnyi centr RAN). Sankt-Peterburg., 2003. s. 244-253.

SHABALIN, V.N. Social'nye osnovy obespecheniya effektivnosti upravleniya ohranoi zdorov'ya pozhilogo naseleniya Rossii; Igisinova K. Problemy obespecheniya zdorovogo stareniya v pozhilom vozraste. Materialy IV ezhegodnoi Mezhdunarodnoi nauchno-prakticheskoi konferencii “Sovremennye aspekty obshestvennogo zdorov'ya i zdravoohraneniya”. Almaty. 28–29 sentyabrya 2005. p.44–46.

SHOKAMANOV, YU. K. Demograficheskoe razvitie Kazahstana: sostoyanie i perspektivy. Informacionno-analiticheskii centr – Ekspertnaya ocenka (http://www.ia-centr.ru/expert/3879/ (03.09.2009)).

SHOKAMANOV, YU. K. Skol'ko kazahstancev mozhet byt' v 2030 godu? Al'Pari. 1998. № 4. s.53–57.

SHOKAMANOV, YU. K. Tendencii chelovecheskogo razvitiya v Kazahstane. Almaty. 2001. p.141-144.

STOLNITZ, G. Demographic Causes and Economic Consequences of Population aging. Europe and North America. New York: United Nations, 1992.

The Agency of Statistics of the Republic of Kazakhstan

UBAIDULLAEVA, V. Demografiya – golovnaya bol' vsego mira. http://www.review.uz/page/article/74.htm

United Nations. Economic consequences of population ageing. http://www.un.org/esa/policy/wess/wess2007files/chap4.pdf (29.08.2009)).

United Nations 2002.World Population Ageing 1950–2050. United Nations publication, Sales No. E.02.XIII.3. (http://www.un.org/esa/population/publications/worldageing19502050/index.htm (24.08.2009)).

VISHNEVSKII, A. G. Pohvala stareniyu. Otechestvennye zapiski. 2005. № 3. s. 78-96.

World Population Aging 1950-2050. New York: United Nations, 2002.

World Population Prospects. The 2006 Revision. United Nations. New York (http://www.unpopulation.org